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Article

Medieval Persianate Wall Paintings, 10–15th Centuries: From Production Approaches and Craftsmanship to Function, Meaning and Aesthetics

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Abstract

This article proposes the first systematic overview of some twenty-five medieval Iranian wall paintings in their architectural contexts (10–15th centuries). Its focus on the artistic technology of wall painting, epigraphic programmes, craftspeople's workshops, decorative iconography and aesthetics is intended to promote their preservation. The study of these wall paintings contributes to the understanding of the history of religion, artists' social statuses and patrons' identities. The medieval Iranian monuments' constructive and decorative chronology, and in some cases their dating, can be revised through scrutiny of their wall paintings. The article presents a model of the development of medieval wall painting technology and aesthetics. Recently published archaeometric analyses, combined with in situ documentation of wall paintings, facilitate discussion of wall painting production technology, craftspeople's mobility, and regional characteristics of wall painting. The relationship between the arts of wall painting, carved stuccos, applied moulded and stencilled stuccos, and tile revetments is discussed to better understand the logic behind the use of wall paintings, their role in decorating monuments, and their position within the decorative hierarchy of multimedia decorative programmes. A contextualised interpretation of wall paintings' aesthetics, function and meaning is proposed.

Keywords: Iran; western Asia; medieval wall paintings; artistic technology; craftsmanship; craftspeople's mobility; technological innovations; architectural structures; medieval decorative aesthetics; 10–15th centuries

1. Introduction

Medieval, and predominantly religious, Iranian architecture received significant attention in the early 20th century as the subject of extensive works by Ernst Herzfeld [1] and André Godard [2,3] and notably in Arthur Upham Pope's Survey of Persian Art [4]. The majority of these monuments are not, however, architectural structures per se in their intended function and meaning. Except for tile decoration, especially lustre tiles from the Saljuq and Ilkhanid periods, which were removed from monuments and sold off to Western collections, Iranian architectural decoration has received almost no specific or systematic attention. However, tiles are often looked at as pieces of art in their own right, but they frequently lack accompanying information concerning their original architectural context. Other decoration in fired brick, carved stone, carved stuccos, wall painting and applied moulded and stencilled stuccos (or a combination thereof) would have been referred to by scholars for their historic inscriptions. While research of historic inscription content



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aids monument dating, and while researchers observe architectural decorations' particular compositional or ornamental complexity, these decorations require more thorough research in their architectural contexts.

2. Methods

In more recent years, scholars began to research the provenance and architectural contexts of tiles, and attention to the carved stucco medium increased significantly. Division of research subjects according to artistic medium and dynasties proved to be a relatively effective manner of breaking down these big themes. However, carved stuccos, wall paintings and tiles could constitute parts of the decorative programmes of the same monuments, thus creating multimedia decorative programmes rather than repertoires incorporating only one decorative medium. In this case, a separation of studies and research into different decoration types proves to be disadvantageous and does not enable us to fully comprehend the monuments and their decoration. This has now been further proved in the field of natural sciences through Parviz Holakoei and Amir Hossein Karimy's material characterisation analyses of medieval carved stuccos and wall paintings [5]. Their research demonstrates that related pigments, and thus comparable raw materials, were employed to produce this technologically and aesthetically distinct monument decoration [5]. Another additional problem arises when classifying architectural decoration into separate media: into which group should we place combinations of wall paintings and applied stuccos, the so-called applied moulded and stencilled stuccos, that we find at Sultaniyya, Pir-i Bakran, Ushturjan, Na'in and Yazd as well as Abarquh? Was this a separate form of art or a by-product of interaction between distinct craftspeople's workshops unique to the Iranian territory?

Moreover, dynastic classification of monuments and their decoration also proves to be problematic. Was there really an absolute, clear break between the production of Saljuq and Ilkhanid architectural decoration? Research by Iman Aghajani demonstrates the opposite, informing that major stucco production took place at the Farumad Friday mosque in the period of post-Mongol conquest, before the formation of the Ilkhanid empire [6]. A similar scenario has been proposed by Bernard O'Kane for the period after the dissolution of the Ilkhanid Empire [7]. To tackle these methodological issues, a different approach has been adopted for this contribution, which will address the entire corpus of Iranian wall paintings from the 10th to the 15th centuries, to be able to observe changes which occurred over a longer chronological context, such as technological inventions and their impact on the aesthetics of wall paintings. Furthermore, reference to Holakoei and Karimy's archaeometric research of stuccos and wall paintings will be taken as a basis to discuss wall painting material and technological characteristics [5]. The article draws on extensive field campaigns by the author in Iran and further research consulting international Islamic art collections (2013–2025)¹. The article's research methodology and interdisciplinarity provide an innovative model for research into Islamic architectural decoration. In doing so, we will attempt to shed light on medieval Iranian wall paintings by putting forward some initial considerations regarding aspects of this hitherto unaddressed subject and by outlining challenges tied to its comprehension. These hypotheses should function as an outline of a research framework and lines of inquiry which will need to be refined by future in-depth research of wall painting case studies.

3. What Do We (Not) Know About Medieval Iranian Wall Paintings?

3.1. *The Rate of Survival*

The documented corpus of 10–15th century wall paintings in Iran and the neighbouring lands consists of some twenty-five decorative programmes with further wall painting fragments and panels from archaeological contexts in museum collections. This corpus

is, nevertheless, likely only a small fraction of the overall number of wall paintings which were produced, representing those which have survived destruction and decay until the present time. We cannot provide any reliable figure concerning how many decorative programmes originally existed, but we may attempt to extrapolate or conjecture based on comparative studies. My research into Ilkhanid monuments and their stuccos [8], for example, enabled me to pinpoint some one hundred and twenty monuments which were either built or redecorated during the Ilkhanid period (1256–1335) [8]. This figure documenting the number of monuments built by one dynasty is considerably more extensive than the entire wall painting corpus, thus indicating that, historically, there was likely a more extensive number of wall painting programmes which have been lost. An argument in favour of this hypothesis is the evidence from the region of Yazd, where wall paintings are comparatively more present on monuments than in other regions.

In Yazd, wall paintings are commonly observed inside monuments which are often built out of fired brick but frequently also out of sun-dried bricks, adobe and rammed earth. These construction materials are less resistant to weathering, and the monuments were thus probably faster to decay, which may eventually have led to their deliberate demolition due to their insufficient state of preservation or the need for increasingly challenging conservation interventions to ensure their preservation. This is the case for one of the monuments in the corpus, which is no longer extant but which was fortunately documented prior to its deliberate demolition: the Kay Khusraw mausoleum near Abarquh (1318–1319 and later phases)². This monument was photographed by Godard, and its images were subsequently published by Godard in 1936, in *Asar-i Iran*³. Godard's photographs document the ruined state of the mausoleum's decoration, consisting of a wall painting programme with occasional combination of applied stucco and wall painting in its interior, as well as its extensive historic and Qur'anic inscriptions, vegetal shamsas and other floral and geometric compositions. Although no longer extant, this monument can be related to the more modest wall painting programmes in the 'Ali al-Naqi and Sayyidun mausoleums in Abarquh and especially the Ilkhanid monuments in Yazd (such as the Shamsiyya, Rukniyya and Kamaliyya; see below) [8]. In summary, this is one known case of the modern destruction of a monument with a decorative wall painting programme, but many such cases have undoubtedly occurred over the centuries. It is therefore important to keep this realisation in our mind when discussing the existing wall painting corpus, which should therefore be considered a relatively random selection from among the artworks from medieval Iran.

3.2. Geographical Distribution of Wall Paintings

The 10–15th century wall paintings feature a geographical distribution pattern distinct from the one I discerned for Iranian stuccos [8]. As for Iranian lustre tiles (mainly dating to the Ilkhanid period), the geographical distribution of tiles was impacted by their production centre—Kashan—and thus features a separate distribution pattern [8]. Unlike wall paintings and stucco, tiles are relatively easy to transport, and we occasionally find them as far off as the Kharg Imamzada Muhammad in southern Iran (1300–1301, 1337–1338)⁴ or the Pir Husayn khanqah [9–12] in Azerbaijan (13–14th centuries). Distribution of medieval wall paintings (Figure 1) is, in fact, more relevant when compared to that of stuccos, not least due to them being produced out of comparable raw materials (it seems that wall paintings are found where the necessary materials, such as gypsum, are available)⁵. In fact, Moslem Mishmastnehi's research findings propose regional differences in the presence of gypsum deposits and monument location in their relation⁶. The densest wall painting concentration is in central Iran, and we find the majority of decorative programmes in Yazd, with some wall paintings at Farasha, Turan Pusht, Abarquh, Muhammadiya, Na'in and Isfahan. In addition to this, further decorative programmes are located in northwestern Iran

(Qurva⁷, Sultaniyya and Tabriz) and northeastern Iran (Damghan, Nishapur, Turbat-i Jam and Sangbast). The only related decorative corpus beyond Iran's modern borders seems to be the Abu Sa'id mausoleum in Mihna (modern Turkmenistan) [7].



Figure 1. Geographical distribution of medieval Iranian wall paintings. (Google Earth reworked by Ana Marija Grbanovic).

It is necessary to note here that Central Asia retains a long-standing tradition of wall painting production of its own, dating to the pre-Islamic and Islamic periods. However, as Yuri Karev elucidates, the chronology of Central Asian wall painting art is patchy, with considerable loopholes for the early Islamic and medieval periods due to the lack of archaeological finds on these chronological frames, thus rendering a comprehensive understanding of medieval Islamic wall paintings in Central Asia and their links to the Iranian territory challenging [13]. Aspects of technological and aesthetic relations between Central Asian and Persianate wall paintings in particular require further evidence and more detailed discussion, which is beyond the feasibility of this contribution⁸. Decorative programmes such as Afrosiyab⁹ [14–17], Laskhari Bazar [18–20] and Panjikent [21] testify to this. Among more recent finds, published fragments from the Qarakhanid Afrosiyab¹⁰ in Uzbekistan and Hulbuk [22,23] in Tajikistan present new evidence to be taken into consideration. These are nevertheless examples of relatively separate wall painting traditions, which require further research before we reach conclusions regarding their exact relation to Iranian medieval wall paintings. Moreover, the majority of known Central Asian wall paintings (or their fragments) derive from secular contexts, unlike in Iran where the only explored secular context for wall paintings is that of Nishapur addressed by Wilkinson [24] (the site from which the majority of wall painting remnants found have been transported to the Metropolitan Museum of Art, New York, or are stored in the National Archaeological Museum of Iran in Teheran). The described limited geographical distribution of wall paintings (see above) is likely to be partially determined by the aforementioned rate of monument survival. On the other hand, this distribution and the concentration of works in Yazd also reflect the mobility and mobilisation routes of wall painting craftspeople's

workshops and the fact that wall painting production, similar to stuccos and tiles, was skilled and specialised knowledge possessed by a limited number of craftspeople's workshops, a point to which we will return in due course. Moreover, it is likely to be tied to socio-political trends and patterns of monument patronage.

3.3. Technologies of Wall Painting Production

We know very little about wall painting production technologies in the examined context. The wall paintings under debate here should also be categorised into several subgroups. To do so, the technology of their production and, consequently, their visual appearance need to be examined closely. Generally, the term wall painting, or mural painting, is associated with painted plaster—in other words, a polychrome painting executed on a plaster support. But a closer look at monuments in Sultaniyya, Pir-i Bakran, Na'in, Ushturjan and Yazd (see below) reveals that a specific artistic technique also exists which combines a painted plaster support wall painting with the subsequent integration of stencilled or moulded stucco material on architectural surfaces where wall paintings are already present. This artistic technique has so far been documented only on surviving monuments in the Iranian territory. It therefore seems to be a unique trait of artistic expressions tied to wall paintings in this geographical context. It has a very limited geographical distribution; it was likely a technique known to only a handful of wall painting or stucco craftspeople's workshops. We will return to this question below, providing notable examples, and it is therefore sufficient to note here that some preliminary research into this specific combination of normally separate techniques was first conducted by Yuka Kadoi¹¹ [25,26] and later explored in further detail by Elagheh Alvandiyan¹².

Wall paintings were most frequently applied on surfaces constructed out of fired or sun-dried bricks. In Iran, it is common to find wall paintings in which a painted plaster layer has been applied on a layer of *kahgil* (mud and fine straw mixture layer)¹³, which functions as a buffer between walls and the wall paintings themselves, thus aiding wall painting adhesion. For the wall paintings themselves, the main component seems to be fine gypsum forming the layer of thin plaster which was painted; it is comparable to that of European wall paintings, which use a thick layer, or *arriccio*, underneath a final fine layer of plaster (*intonaco*) which was actually painted. Until recently, limited information concerning the material characterisation of wall painting pigments was available. One such study was conducted during the restoration of the Gunbad structure at Turbat-i Jam, which features a painted plaster decorative programme masterpiece from the late 14th century (Figure 2) [27,28]. Holakoei et al. undertook another important study for the pigment characterisation of the Nishapur wall paintings, stored in the Metropolitan Museum of Art, New York (see Figure 3) [29]. More recently, Holakoei and Karimy published a comprehensive study of carved stuccos and wall paintings from the 11th to 15th centuries, thus also proposing a chronology of pigment use which changed throughout the given timespan [5]. Occasionally, analytics have shown the use of organic pigments, but this is an exception to the rule [5]. In sum, from the period of experimentation with pigments in the 9/10th and 11th centuries, the colouring palette for wall paintings, as well as carved stuccos, reached its standard and became particularly restricted in Ilkhanid times (in roughly the beginning of the fourteenth century). This trend differs substantially in comparison to modern period wall painting practices in Iran (Safavid, Qajar), when the pigment, and by consequence the colour palette, widens again [30]. But how, then, were these pigments fixed onto their support? It is clear that in medieval Iran, the technique of wall painting required dry painting—tempera—but so far there have been only preliminary results published from research into potential binding agents employed for wall paintings [31].



Figure 2. The wall painting decorative repertoire in the Gunbad structure of the Turbat-i Shaykh-i Jam pilgrimage complex (1361–1362) in Turbat-i Jam (Ana Marija Grbanovic).



Figure 3. Wall painting from the dado area, excavated at the Tepe Madrasa in Nishapur, 9th century CE, painted plaster, H. 40 3/8 in. (102.6 cm); W. 53 1/2 in. (135.9 cm); D. 2 in. (5.1 cm); Wt. 195 lbs. (88.5 kg); accession number: 40.170.176. <https://www.metmuseum.org/art/collection/search/449862> (last accessed: 23 April 2024).

Another specific aspect of wall painting art about which we know very little is wall painting gilding. Early wall paintings, such as the pre-Saljuq wall painting fragments recovered from the Friday mosque of Isfahan, extensively published by Michael Jung¹⁴ [32–34], and accordingly only mentioned here, or wall painting fragments in the Friday mosque of Tabriz [35], were gilded. We similarly find gilding on the stuccos of the Sin Friday mosque¹⁵ (1131–1132; 1134–35) [36], and the practice of gilding assumes monumental dimensions in Ilkhanid times, notably on the applied moulded and wall painted stucco teardrop medallions of the Uljaytu mausoleum in Sultaniyya [37] as well as on its other surfaces (Figure 4). Further monuments with gilded decoration include the Pir-i Bakran mausoleum [38], south of Isfahan (Figure 5), and probably the Uljaytu mihrab in the Isfahan Friday mosque, as well as several monuments of the Ilkhanid period in Yazd [39]. It is important to know that Lajvardina and Mina‘i tiles of the Saljuq and Ilkhanid periods, respectively, also display considerable amounts of gilding produced with advanced approaches and techniques [40]. A working hypothesis by Holakooei and Karimy suggests that tin may also have begun to be used for gilding in the early 14th century¹⁶, and further research is necessary for a more nuanced comprehension of wall painting gilding practices in medieval Iran [41].



Figure 4. Gilded applied moulded stuccos combined with wall paintings; teardrop medallions in the interior of the transitional zone, Uljaytu mausoleum at Sultaniyya; second decorative phase (1313–1314–1316/1320) (Ana Marija Grbanovic).



Figure 5. Carved stucco mihrab (1312–1313) at the Pir-i Bakran mausoleum in Pir-i Bakran, south of Isfahan, painted and gilded (Ana Marija Grbanovic).

3.4. Some Lesser-Known Wall Painting Programmes

This section attempts to provide a consolidated overview of the most significant medieval Iranian wall paintings in the form of selected case studies, without excessively dwelling on the entire wall painting corpus. The case studies are arranged chronologically to pinpoint changes in medieval Iranian wall painting aesthetics and technology.

3.4.1. Nishapur

The old city of Nishapur is arguably one of the most well-known archaeological sites. Excavations in collaboration with the Metropolitan Museum of Art, New York, yielded an enormous amount of architectural decoration fragments from the site, now stored in the National Archaeological Museum in Tehran and the Metropolitan Museum of Art. Stuccos and wall paintings were published by Charles K. Wilkinson at an early point, drawing international attention to the subject [24]. Within the medieval Iranian wall painting corpus, finds from Nishapur assume specific importance, thanks to their secular context, the sheer amount of fragments and panels, and their early publication. This material fills a considerable gap in our understanding of medieval Iranian wall paintings by providing evidence on characteristics of wall paintings in a secular, partially palatial context and by providing a rare insight into figural wall paintings in the Iranian territory. A wide pigment repertoire for these wall paintings has been established based on their material characterisation by Holakooei et al., suggesting that this was a wall painting production trial-and-error period, which standardised in later centuries¹⁷. Looking at visual characteristics of these finds, abstracted compositions on dado panels from the Tapa Madrasa, polychrome muqarnas from the Sabz Pushan site, fragments of human figures from the Qanat Tapa, numerous inscription bands, and especially the hunting scene (or the so-called Nishapur

rider) from the Vinyard Tapa demonstrate a wide variety of depicted subjects (likely in connection to structures they coated) and creativity of early Islamic wall painters. While the Nishapur rider's iconography, function and meaning have been extensively debated by Wilkinson [24], it is important to highlight here the uniqueness of this find; it testifies to a long-standing tradition of figural mural painting in the Iranian territory, likely related to comparable repertoires at the Lashkari Bazar in Afghanistan and further such comparable cycles. The relatively early dating of these finds is also important, and it demonstrates that the art of wall painting was well developed in the given period. Moreover, the subject matter of wall painting seems to have strongly depended on architectural context (secular vs. religious) as well as practices of wall painters' workshops. More recently, further fragments of figural wall paintings in secular contexts of the 13–14th centuries have been attested at the site of Takht-i Sulayman (UNESCO World Heritage site in northwestern Iran). Taken together, the Nishapur rider and human figure fragments of Nishapur, as well as fragments of magic creatures from the Takht, indicate that craftspeople developed and produced wall paintings in strong connection to monument function and likely in accordance with the patron's or site supervisor's instructions. The function of wall paintings, therefore, exceeded pure decoration; rather, they were intended to highlight and consolidate the function of the structures they coated. Further comparable findings have the potential of making our understanding of figural wall painting tradition in the Iranian territory more comprehensive and more grounded.

3.4.2. Damghan-Muhammadiya-Farasha

The Pir-i Alamdar tomb tower (1026–1027) [42–44] is located in Damghan, some 270 km northeast of Teheran as the crow flies (Figure 6). In its interior, this tomb tower exhibits one of perhaps the best-known wall painting decorative programmes in Iran, consisting of a monumental Qur'anic inscription in elaborate and complexly designed plaited Kufic. A further historic inscription in fired brick dates the tower and its wall painting to 1026–1027 [44]. It seems to be characteristic of early wall paintings that feature relatively monochrome palettes consisting mainly of blue and dark/pronounced black colour shades, with one notable exception being the wall paintings of Nishapur (see above) and the Na'in Friday mosque (c. 960 CE; Figure 7) featuring arguably developed polychromy palettes despite their early dating¹⁸. Conversely, the far less well-known wall painting repertoire in the Sar-i Kucha mosque in Muhammadiya, near Na'in, which postdates the Na'in wall paintings by only a century, features a more restricted polychromy palette (Figure 8) [45].

The recently restored wall painted inscriptions in the repertoire of the Sar-i Kucha mosque in Muhammadiya received only a brief mention by Blair [46]. These inscription bands feature a type of floriated Kufic inscription style and run along the architectural lines of the mosque's interior, thus highlighting its visual traits and monumentalizing the mosque's appearance and providing the date of its completion (1106–1107) [47]. Extensive incision remains and the visual appearance of the inscriptions indicate that they were transferred onto the wall surface from smaller sketches with the aid of incisions of base-lines for Kufic (Figure 9) [48]. The same transfer modality for Kufic inscriptions has also frequently been noted in carved stucco medium spanning all medieval periods, thus indicating that some aspects of production technology of wall paintings echo practices of the stucco art [49]. Like at Damghan, the Muhammadiya wall paintings feature a restricted polychromy scheme with variegating shades of dark to light blue.



Figure 6. The monumental plaited/knotted Kufic inscription in wall painting medium at the Pir-i Alamdar tomb tower in Damghan (1026–1027) (Ana Marija Grbanovic).

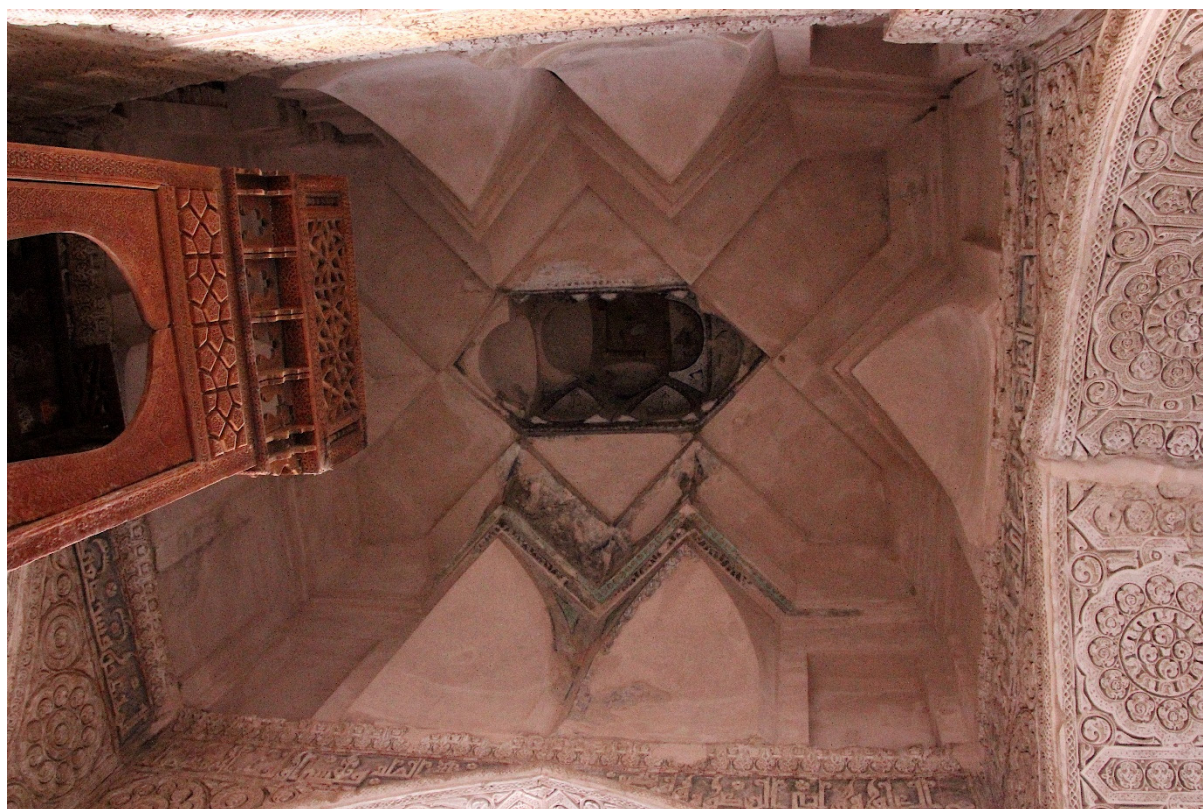


Figure 7. Wall paintings in the qibla area of the Na'in Friday mosque in Na'in (c. 960?) (Ana Marija Grbanovic).



Figure 8. Wall painting inscription bands from the decorative programme at the Sar-i Kucha mosque in Muhammadiya near Na'in in central Iran (1106–1107) (Ana Marija Grbanovic).



Figure 9. Design incisions for wall painting design transmission from a sketch onto a larger surface at the Sar-i Kucha mosque in Muhammadiya near Na'in (Ana Marija Grbanovic).

One could conclude at this point that restricted blue to black colour schemes are frequently encountered in early Islamic wall paintings, at least in religious contexts. Nevertheless, there are also later examples of similar inscription schemes and polychromy palettes in artworks which could be understood as archaisms but likely only indicate the coexistence of different artistic expressions and technologies across the timespan covered by the research in this contribution. An interesting example to cite here is the wall paintings at the Farasha Qadamqah (c. 1300)¹⁹ between Yazd and Abarquh (Figure 10)²⁰. At Farasha, the preserved wall paintings consist of fragments of a painted mihrab and a Kufic inscription at the base of the dome interior. On the one hand, they appear rather archaic and could be connected to the nearby Shaykh Junayd mausoleum in Turan Pusht (1148–1149) [50]. On the other hand, the finials of the letters' hastae enable us to connect them directly to Ilkhanid artistic expressions, such as the Ilkhanid wall paintings at the Davazdah mausoleum in Yazd (1038; 14th century redecoration) [51]. We therefore need to be careful when proposing dating based on stylistic analyses and assumptions that the art of wall painting witnessed a linear evolution throughout the centuries.



Figure 10. Interior of the Farasha Qadamqah near Abarquh (c. 1300): wall painting mihrab spandrels topped by an inscription cartouche and the inscription band running along the dome's transitional zone (Ana Marija Grbanovic).

3.4.3. Sultaniyya–Isfahan–Ushturjan–Pir-i Bakran–Azadan–Na'in–Yazd

The Uljaytu's mausoleum in Sultaniyya and its two decorative phases have been widely debated (Figures 4 and 11–13) [52,53], with several open questions remaining. First and foremost, what were the reasons for the undertaking of the second decorative campaign, which followed the first incomplete one by just a few years (phase one: be-

tween 705/1305–1306 and 710/1310; phase two: between 713/1313–1314 and 716/1316 or 720/1320)²¹? The mausoleum's first decorative programme consists of glazed and terracotta revetments which form diverse geometrical patterns, but the soundings indicate that it was never completed, with the upper parts of the mausoleum's interior not showing the same decoration (Figure 11). The second decorative phase is even more intriguing (Figures 4, 12 and 13). It comprises a full decorative programme covering the entire interior of this truly monumental structure. This decorative programme can be roughly divided into two groups: large-dimension wall paintings, which were clearly produced with the aid of stencils, and further decoration using a combination of applied moulded stuccos and wall paintings. Although this monument is pending systematic research, its historic inscriptions are important in providing coherent dating for decoration and indicate that, among surviving monuments, the mausoleum of Uljaytu is the earliest dated extant structure with a combination of stuccos and wall paintings. The craftspeople who produced this decoration seem to have reached Sultaniyya from Tabriz, the old Ilkhanid capital, where several monumental constructions predate the erection of Uljaytu's mausoleum. The craftspeople were subsequently mobilised to produce similar types of decoration in the Isfahan area at the Friday mosque of Ushturjan [54] and at the Pir-i Bakran mausoleum (Figures 14 and 15) [55]. At Ushturjan, craftspeople produced a monumental mihrab using a combination of applied moulded stucco and wall painting techniques (1315–1316)²². The lower part of the Ushturjan mihrab is damaged; the stuccos became detached from the surface, thus revealing their original design outline, traced in red. This is important evidence concerning the production of this decoration, the subject of research by Hesham Aslani, who proposes their classification based on the modality of stucco application approaches [56]. The decoration of the Pir-i Bakran mausoleum in its pre-Ilkhanid domed chamber (Figure 15; phase 3; 1312–1313) features a unique representation of an unidentified sacred landscape, perhaps a mosque, with minarets covered in glazed decoration [57]. This wall painting is combined with applied moulded stuccos featuring vegetal designs and a set of inscriptions²³. Another comparable wall painting repertoire, albeit one with a specific theme, is located in Azadan, now part of Isfahan. The interior of the Gunbad mosque of Azadan (1364–65)²⁴ now displays heavily mutilated wall paintings, which are some of the earliest representations of the sacred landscapes of Mecca and Medina in an architectural context (Figure 16)²⁵. Moreover, the wall painting, which features a historic inscription (1364–1365) which is no longer legible, illustrates that the function of the monument was the storage of processional standards. This repertoire is a very good example indicating how wall paintings and other decorations might bolster the function and meaning of monuments. Similar yet separate studies of the constructive and decorative phases of the Ushturjan and Pir-i Bakran monuments allow us to date these wall paintings and stuccos to the first decades of the fourteenth century. In both cases, they therefore post-date the second decorative stage at Sultaniyya. The glazed revetment decorated entrance portal of the Ushturjan Friday mosque retains a double craftspeople's signature, providing strong evidence to suggest that the artists likely reached Ushturjan from the direction of Tabriz [58]; therefore, having completed the decoration at Sultaniyya, it is plausible that the same craftspeople were either mobilised to the Isfahan area or perhaps travelled there independently in search of work. This was not, however, their final destination; they seem to have continued their way towards the area of Na'in and finally Yazd and Abarquh.



Figure 11. First decorative phase revetments in the Uljaytu mausoleum in Sultaniyya (1305–1310) (Ana Marija Grbanovic).



Figure 12. Wall paintings produced with the aid of stencils at the Uljaytu mausoleum in Sultaniyya, second decorative phase (1313–1316/1320) (Ana Marija Grbanovic).



Figure 13. Wall paintings combined with applied moulded and stencilled stuccos of the second decorative phase (1313–1316/1320) at the Uljaytu mausoleum in Sultaniyya (Ana Marija Grbanovic).



Figure 14. Friday mosque of Ushturjan; Ilkhanid interventions (1315–1316) comprised the production of a monumental mihrab out of carved stuccos combined with wall paintings and applied moulded and stencilled stuccos (Ana Marija Grbanovic).



Figure 15. Unidentified sacred landscape wall painting from the third decorative intervention (1312–1313) in the Ilkhanid domed chamber of the Pir-i Bakran mausoleum south of Isfahan (Ana Marija Grbanovic).



Figure 16. Sacred landscape at the Gunbad mosque in Azadan, west of Isfahan (1364–1365) (Ana Marija Grbanovic).

Three main monuments in Yazd feature architectural decoration related to those at Sultaniyya and the Isfahan area: the Rukniyya (1325), Shamsiyya (1365) and Kamaliyya (c. 1320) religious funerary complexes²⁶. The Rukniyya is perhaps the best known of the three, as it is also in the best state of preservation, with recent wall painting restorations having taken place. The decoration at the Rukniyya consists of wall paintings, which are partially combined with applied moulded and stencilled stuccos (Figure 17). According to Alvandiyan, the moulds for these stuccos may have been produced out of leather²⁷. In addition, wall paintings were likely produced with the aid of stencils. Monument's inscriptions are occasionally tilted or placed in positions which would have been extremely difficult for craftspeople to design and paint freehand. Moreover, a certain amount of inscription mirroring is observable in the transitional zone designs. It can be hypothesised that stencils began to be used for wall painting production during the Ilkhanid period, based on the evidence from monuments which date to the early 14th century. We should thus attribute them to Ilkhanid artistic inventions in the territory of Iran, noting that stencils were not correlatively employed in the production of carved stuccos [49]. It is currently unclear what material(s) may have been used to produce these stencils, but two plausible suggestions would be either large sheets of paper or perhaps metal sheets.



Figure 17. Decorative programme of the Rukniyya complex in Yazd (1325): combined wall paintings with applied moulded and stencilled stuccos (Ana Marija Grbanovic).

The Shamsiyya madrasa (1365) is a less well-known monument, and it is in dire need of conservation interventions (Figure 18). This funerary complex postdates the construction of the Rukniyya complex (1325), but because the two patrons were relatives, they may have employed the same craftspeople to undertake the decoration of their respective monuments. Blair also reports that plans for Shamsiyya, as well as the cenotaph for its patron, were produced in Tabriz and brought to Yazd [59]. This is another piece of evidence in support of our hypothesis concerning craftspeople's mobility on the Tabriz–Sultaniyya–Isfahan–Na'in–Yazd route. Decoration at the Shamsiyya nevertheless demonstrates a cer-

tain technological advancement compared to that at the Rukniyya, with a greater prevalence of applied stuccos combined with wall paintings over pure painted plaster wall paintings as well as a more complex relief (compare Figures 17 and 18). At the Shamsiyya, the fallen-off applied stuccos and unrestored wall paintings reveal remains of preparatory drawings and linings of decorative designs which were used for their production (outline, placement, design transfer).



Figure 18. The architectural decorative programme of the Shamsiyya complex (1365) features a combination of wall paintings and applied moulded and stencilled stuccos (Ana Marija Grbanovic).

The third monument is the Kamaliyya (c. 1320), another funerary complex, which features only painted plaster wall paintings of restricted dimensions (Figure 19). This decorative programme and the overall structure of the monument are in urgent need of repairs and conservation interventions. Decorative programmes at the Rukniyya and the Shamsiyya display developed polychromy palettes which include the majority of colours, but the contemporary work at the Kamaliyya features a decorative repertoire restricted to diverse shades of blue to black and white. Decoration should therefore not be dated based purely on its aesthetic appearance because diverse artistic expressions coexisted, and each craftspeople's workshop possessed its own knowledge and materials for decoration production (see above). The Rukniyya and the Shamsiyya also retain traces of gilding, which are yet to be analysed²⁸. To conclude this discussion, the described artistic medium combining wall painting and applied stucco techniques has so far been attested only in the Iranian territory and needs to be recognised as a unique technological and aesthetic expression of the given chronological and geographical contexts, which occurred in the early 14th century.



Figure 19. The wall painting decorative repertoire of the Kamaliyya complex (c. 1320) (Ana Marija Grbanovic).

3.4.4. Turbat-i Jam-Mihna

Wall painting repertoires in the historic Khurasan region are located at the pilgrimage complex of Shaykh Turbat-i Jam in Turbat-i Jam [60,61], northeastern Iran, which is roughly 190 km as-the-crow-flies southwards from the mausoleum of Abu Sa'īd in Mihna (modern Turkmenistan) (Figures 2 and 20). The first discussion of the connection between the wall paintings of these two monuments is by Bernard O'Kane²⁹, who noted repeating signatures of the master craftsman leading the workshop of wall painters at both monuments³⁰. This is significant evidence, given that very few wall painter craftspeople's signatures are known today. Moreover, at both sites, the architectural structures are considerably older than the wall paintings: the Gunbad at Turbat-i Jam was redecorated with wall paintings in 1361–1362 [62], whereas the Abu Sa'īd mausoleum is likely dated to the late 11th if not 12th century³¹, but its wall paintings are almost contemporary to those at Turbat-i Jam³². This provides us with another piece of information concerning the characteristics of wall paintings; they were easy to use for redecoration and were likely faster to produce than carved stuccos or tile decoration. The cost of production of these revetments may also have played a significant role in accounting for their prevalence in decorative programmes. Observing the interior of the Gunbad structure at Turbat-i Jam, one notes that the interior of its ribbed dome which is decorated with muqarnas finial is also a wall painting (Figure 2). There are no examples of such decoration at such elevations and with such curvature in carved stucco because this medium was not suitable for this type of surface, thus giving another

usage advantage to the wall painting medium. It is also important to note that one of the earliest tile or glazed revetment interiors of dome surfaces is found in the Friday mosque of Yazd (1416–1417) [63], which significantly postdates the execution of the wall paintings of Turbat-i Jam and Mihna³³. Wall paintings at Turbat-i Jam and Mihna are characterised by square Kufic inscription panels, large shamsas and depictions of flower vases. Close observation of the shamsas brings us back to the issue of stencilling, which was likely practised at both monuments. The two monuments, therefore, feature an aesthetic tradition and artistic expression correlating to the late 13th and 14th centuries and can be understood as the connecting element to the significant 15th century wall painting programme at the madrasa Ghiyasiyya of Kharghird in northeastern Iran (1442–1443)³⁴. This monument features fifteenth century wall paintings of muqarnas on the ceilings in its entrance structures which have recently been restored and are in a well-preserved state (Figure 21). The aesthetics and visual vocabulary of these wall paintings are not unlike those at Turbat-i Jam and Mihna; despite evident differences in terms of painted surfaces (muqarnas at Kharghird; walls, transitional zones and domes at Mihna and Turbat-i Jam), these wall paintings were produced with the same type of pigments and they consequently share prevalently blue colouring palettes and decorative aesthetics formed by related abstracted vegetal and geometric elements³⁵. The connections between these three monuments illustrate how long certain artistic expressions and aesthetics could survive independently of the changes occurring in and between ruling dynasties.



Figure 20. The wall painting programme of the Abu Sa'id mausoleum in Mihna, Turkmenistan (courtesy of Bernard O'Kane).



Figure 21. Recently restored wall painting repertoire in the entrance chambers of the Madrasa Ghiyasiyya of Kharghird (1441–1442) (Ana Marija Grbanovic).

4. Craftspeople's Mobility – Wall Painting Production Knowledge Transfer

Research on the number of preserved wall paintings and their shared characteristics indicates that the art of wall painting may have been knowledge possessed by a very restricted number of wall painting workshops. It was likely a closely guarded secret. We should not make the mistake of considering these wall paintings as works of regional schools, as suggested by Kadoi [25], or of echoing Shani's suggestion that the stuccos collectively provide evidence of the existence of a Kashan stucco school [64,65]. Quite to the contrary, we have seen that craftspeople may have been mobilised across regions and often travelled extensive distances to undertake specific projects (see above). One or more groups of craftspeople may have moved from Tabriz to Sultaniyya, towards Ushturjan, Pir-i Bakran and Na'in to finally reach Yazd and Abarquh. With craftspeople changing locations, the knowledge of wall painting production spread throughout the greater Iranian territory. More detailed and systematic research into pre-Islamic wall paintings [66,67] in Iran and those in Central Asia would be needed to fully understand whether the art of wall painting was native to Iran or if it was an artistic knowledge brought from the East or the West by craftspeople, or indeed a combination of both. Central Asia seems to be a more likely answer to the question of origin, due to its long-standing tradition of wall painting production and close commercial ties to the Iranian territory (see above)³⁶. But one thing is clear: craftspeople's mobility was not confined by regions, and many travelled extensive distances following commissions. Another later example which supports this hypothesis is the case of the calligrapher 'Abd Shukrullah Qazvini-yi Naqqash, debated by Peyvand Firouzeh, whose signature is found at the tomb of Ahmad I Bahmani (r. 1422–1436) at Ashtur near Bidar, India (after 1436)³⁷ [68,69].

Our excursus has also shown that the majority of early 11–12th century wall paintings for minor structures with religious function featured limited chromatic palettes and mainly focused on the expression of pious inscriptions. This contrasts with wall paintings from the same period created in a mainly secular architectural context at Nishapur (Figure 3; see above). In this location, wall paintings feature a developed polychromy palette and more complex designs as artists experimented with a wide array of pigments. Can we state that the colouring palette and technology of early Islamic wall painting production depended on which craftspeople's workshops were involved in the production of sets of wall paintings, as well as on the size of endowments? In any case, wall paintings came to be combined with applied moulded and stencilled stuccos by the early 14th century and therefore almost ceased to exist as an independent medium in this period—a phenomenon unique to the Iranian territory. As quickly as this artistic invention emerged, it also died back out. It is most reasonable to consider that the prominence of tile mosaic increased from the early 15th century onwards and that the older knowledge of wall painting production with applied stuccos seems to have died out for this reason. Nevertheless, wall paintings continued to be produced in the Iranian territory under successive dynasties, a fact to which three major repertoires in northeastern Iran testify (see above). From our discussion, it emerges that stencils seem to have been first used for wall painting production in Iran in the early 14th century. Other innovations, yet to be proven by evidence from natural sciences, may indicate that this was a period of major technological inventions which caused shifts in the production of wall paintings and architectural decoration more generally.

5. Inscriptions, Dating and Patronage

We have demonstrated that the majority of wall painting programmes can either be dated based on the content of their historic inscriptions or from an analytical deduction of monuments' constructive and decorative chronology. Their historic inscriptions, on the other hand, help us understand the history of monuments. Dated wall paintings and those dated based on craftspeople's signatures or stylistic comparison allow for a better understanding of the chronological context of Iranian wall painting art. In sum, the medieval art of Iranian wall painting began around the 9th century (Nishapur) and late 10th century (Na'in Friday mosque; c. 960 CE) and concluded around the 15th century (Kharghird Madrasa Ghiyasiyya; 1441–1442). In this chronological span, the art of wall painting gradually evolved from simple inscription bands into full artistic decorative programmes. In the 15th century, this artistic medium was superseded by the art of tile mosaic, demonstrating numerous technological advantages with respect to wall paintings. However, the art of wall painting was revived in the Safavid and Qajar periods, when wider pigment and colour palettes and separate complex subjects with increasing significance of figural elements and compositions were depicted in the given artistic medium [70,71]. Nevertheless, this artistic medium evolution was not entirely linear, and diverse artistic modes coexisted. It seems that the complexity of design, the modality of design transfer and the use of stencils and polychromy palette largely depended on the workshop which was involved in the production of the wall paintings and the size of endowments. This brings us to the issue of wall painting patronage, which is perhaps one of the most obscure aspects of the given wall painting corpus because the identity of its sponsors remains largely unknown. With the exceptions of Sultaniyya and commissions in Yazd and Turbat-i Jam, we know very little about the wall painting patrons. The existing information nevertheless tells us that patrons may have included emperors (Sultan Uljaytu), local rulers (Shams al-Din and Rukn al-Din) or even notables or rulers tied to important religious orders (Turbat-i Jam)³⁸.

6. Conclusions

In our excursus, we examined diverse aspects of wall paintings in an attempt to consolidate our current knowledge about them and to highlight the gaps in knowledge which are still to be filled by future research. A particularly useful approach to filling this void is the comparison of wall paintings to carved stuccos, a topic on which recent scholarship has produced a considerable body of knowledge. It thus becomes clear that wall paintings and carved stuccos are more closely related than they appear to be at first sight (particularly concerning their materiality). Future research on pigmentation of wall paintings and the binders and gilding techniques used will provide new insights into wall painting technology. Moreover, such analyses of wall paintings from different centuries may also inform a better understanding of the geographical and temporal developments of this art. Rather than a linear evolution of the art form, wall paintings were works of separate craftspeople's workshops whose members transmitted their knowledge from generation to generation, thus forming a tradition of this specific art with several subgroups, such as combinations with applied moulded or stencilled stuccos. This tradition did not exist in the form of regional schools, due to the (frequently long-distance) mobility of wall painting craftspeople's workshops. Compared to what we know about the mobility of stucco craftspeople in the 13–14th centuries³⁹, it would seem that craftspeople producing wall paintings spread knowledge across even longer distances. This might be due to the scarcity of knowledge of this art, or the mobility image may be somewhat distorted by the issue of the lower monument survival rate. Concerning wall painting materiality, there is also a need to discern further aspects of their visual features and, in particular, the content of epigraphic programmes. Such studies have the potential to help experts answer other important research questions tied to wall paintings, such as the identity of their patrons and the function and meaning of wall paintings. We have also seen that wall paintings were not produced in isolation from other decorative media; on the contrary, they were frequently made for architectural contexts where other decoration existed, was being produced, or was added at a later point. Viewing wall paintings as part of the multimedia decorative programmes of medieval Iranian monuments may therefore provide for a fruitful line of inquiry for future research.

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Notes

- ¹ The author undertook several travels for monument documentation and research in the Islamic republic of Iran, Azerbaijan and Nakhchivan. Further research of relevant archives and museum collections has also been performed in this period. For research of wall paintings, the following are the most relevant: Archive Eugenio Galdieri, EUR, Rome; Archivio Fotografico del Museo Nazionale d'Arte Orientale, Fondo IsIAO, Rome (transferred to the EUR, Rome); B. M. Smith Archive, the Freer Gallery of Art, the Smithsonian Institution, Washington D. C.; Image Archive, Islamic Art and Archaeology, Oriental Institute, University of Bamberg; Robert Byron Archive, Conway Library, Courtauld Institute of Art, London; Rosario Paone, Private Archive, Bari; Berling Museum of Islamic Art; the British Museum in London and the Metropolitan Museum of Art in New York. These research travels were funded by the Studienstiftung des Deutschen Volkes (PhD scholarship) and the German Research Foundation (Stucco and Tiles project; PI: Lorenz Korn, University of Bamberg).
- ² Wilber, D.N. *The Architecture of Islamic Iran: The Il Khānīd Period*; Grbanovic *Ilkhanid Stucco*, Cat. No. 11; Princeton University Press: Princeton, NJ, USA, 1955; pp. 154–155, Pls. 121, 123; Figure 34.
- ³ Godard *Asar-i Iran*, pp. 60–61, 63, 68, Figures 42–47.
- ⁴ Wilber *The Architecture*, p. 184.
- ⁵ Grbanovic *Ilkhanid Stucco*, p. 96.
- ⁶ Moslem Mishmastnehi, personal communication to the Author. See also Mishmastnehi, M.; Van Driessche, A.E.; Smales, G.J.; Moya, A.; Stawski, T.M. Advanced Materials Engineering in Historical Gypsum Plaster Formulations. *Proc. Natl. Acad. Sci. USA* **2023**, *120*, e2208836120. <https://doi.org/10.1073/pnas.2208836120>.
- ⁷ Due to disputes surrounding the dating of this wall painting, the case has been omitted from the discussion. It will require a separate study to clarify in which decorative stage these wall paintings were produced for the monument.
- ⁸ Karev "Qarakhanid," pp. 46, 69, 71.
- ⁹ For High-Resolution Images of Wall Paintings, see: <http://contents.nahf.or.kr/goguryeo/afrosiab/english.html> (accessed on 24 April 2024).
- ¹⁰ Karev "Qarakhanid," pp. 45–84.
- ¹¹ Khakbaz, I.A. Shinasa'-yi Rawish-i Sakht-i Gachburiha-yi Munhasir bih Fard-i Bina-yi Ilkhani-yi Rukniyyayi Yazd. In *Majmu'at-i Maqalat-i Hashtumin Hamayish-i Hifazat wa Marammat-i Ashya'-i Tarikhi-Farhangi wa Tazi'yinat-i wa Basta bi Mi'mari*; Teheran: 2010.
- ¹² Alvandiyan "Shinasa'-yi," Alvandiyan "Arayiha-yi." Compare to Ilaghi Alvandiyan, Majid Ulumi and Mohammad Hassan Khademzade. In *The Architecture of Yazd in the Almozafar Period*; ICHHTO: Yazd, Iran, 2009. (In Persian).
- ¹³ Mud and fine straw mixture layer.
- ¹⁴ Matthiae, P., et al., Eds.; Harrassowitz Verlag: Wiesbaden, Germany, 2010; Volume 3, pp. 111–127.
- ¹⁵ Amir Hossein Karimy and Parviz Holakooei, personal communication to the Author.
- ¹⁶ Research in progress by Parviz Holakooei and Amir Hossein Karimy. Personal communication to the Author.
- ¹⁷ Holakooei et al., "Early Islamic Pigments," 175–195, at 192–193.
- ¹⁸ See Andrea Corsi's article in preparation, forthcoming.
- ¹⁹ Quchani "Barrasi-yi Katibiha-yi," pp. 7–13; 44–47.
- ²⁰ Farasha is located some 30 km as-the-crow flies southwest of Yazd.
- ²¹ Blair *Text*, pp. 117–127, see especially p. 117.
- ²² Miles "The Inscriptions".
- ²³ Grbanovic *Ilkhanid Stucco*, Cat. No. 2, pp. 75–76.
- ²⁴ Wilber *The Architecture*, p. 185. GPS location of the monument: 32.6571861; 51.6129025,21.
- ²⁵ O'Kane "The Bihbihani Anthology," pp. 9–18.
- ²⁶ Kadoi "Aspects," Alvandiyan Ulumi and Khademzade *The Architecture*; Grbanovic *Ilkhanid Stucco*, Cat. No. 29.
- ²⁷ Alvandiyan "Arayiha-yi."
- ²⁸ The current hypothesis proposed by Holakooei and Karimy suggests that this was also tin gilding, which seems to have been invented for use in the decoration of these very monuments.
- ²⁹ O'Kane "Architecture," pp. 211–233.
- ³⁰ See note 29 above.
- ³¹ See note 29 above.
- ³² See note 29 above.
- ³³ Golombek, L.; Wilber, D.N. *The Timurid Architecture of Iran, 2 Vols*; Princeton University Press: Princeton, NJ, USA, 1988; Volume 1, p. 324, pls. 220–234, Figures 84–85. TEI No. 10151. Available online: https://www.epigraphie-islamique.uliege.be/Thesaurus/User/EpigraphyDisplay.aspx?id=10151&pan=1&st=IRAN-%u1e2aargird*&sc=5 (accessed on 23 April 2024).

- ³⁴ See note 33 above.
- ³⁵ For unpublished archaeometric analyses of these wall paintings, see Sayyadshahri, H. Technical Investigation and Documentation of the Paintings in Main Dome of Sheikh Ahmad-e Jami's Tomb. Unpublished Master's Thesis, Art University of Isfahan, Isfahan, Iran, 2010. (In Persian).
- ³⁶ See Karev, "Qarakhanid," pp. 45–84, at 46, 69, 71.
- ³⁷ Overton, K., Ed.; Indiana University Press: Bloomington, IN, USA, 2020; pp. 145–174.
- ³⁸ Grbanovic *Ilkhanid Stucco*, Chapter 4; pp. 202–277.
- ³⁹ See note 38 above.

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