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## **Mamluk metalwork fittings in their artistic and architectural context**

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## CHAPTER 4

# Mamluk Metalwork Fittings and their Context

### INTRODUCTION

Now that the characteristics of Mamluk metalwork fittings as individual objects, and their sources of inspiration, have been studied, attention will shift to their relationship with the structures in which they functioned. Their practical use in both the exterior and interior of public religious buildings open to all makes them more accessible than the majority of metalwork objects that were in private hands. Although this public display increased their visibility, the drawback of their installation is that they had to compete with an overwhelming variety of other designs executed in different media that were also part of the same building. What had started as a unique object in the hands of the metalworker had inevitably become a component of a much larger structural entity. This is not to say that these fittings could easily be overlooked: their size, material, and colour made them stand out from their surroundings. Moreover, their installation in many a façade added to their visibility, especially with regard to the entrance door, the unique and prominent role of which was further enhanced by the lofty and decorative entrance portal that surrounded and framed it.

In order to establish the relationship between Mamluk metalwork doors, doorknockers, and window grilles and their immediate surroundings, their different locations in religious buildings will first be inventoried. Then the question whether those fittings that were located closely to each other were initially conceived as a unity will be addressed. Special attention will be directed to the case of doors and their attached doorknockers since those actually shared the same space. Next, the reasons for the re-use of fittings in different contexts will be discussed. And finally a key question will be raised, namely to what extent the designers tried to establish a visual connection between the metalwork fittings and the other media in their immediate vicinity, both on the exterior and in the interior of religious buildings.

### 4.1 LOCATION AND HIERARCHY

The metalwork fittings that are still *in situ* today, or that can be attributed with certainty to the Mamluk period, are almost all installed in or originate from buildings with a religious or charitable function. These were, on the whole, multi-functional complexes, in which the mausoleum of the founder was combined with a mosque, *madrasa*, *khānqāh*, *sabīl-kuttāb*, or a combination of these. To some extent this high survival rate of religious buildings can be explained by the fact that their upkeep was warranted by their *waqfs*, in contrast to houses that would endure only as long as private persons were willing to invest in their maintenance. Large slabs of metal such as those used for facing doors and for grilles would certainly be among the valuables stripped from the houses of amirs when these were confiscated by the state after they had fallen

into disgrace or after their death.<sup>1</sup> Of the few metalwork doors that do remain in the palaces of amirs or sultans, the baseness of the material and the lack of decoration are remarkable.<sup>2</sup> A glimpse of a more ambitious use of fittings in palatial environments in the late 15<sup>th</sup> century is offered by contemporary travellers.<sup>3</sup> The number of decorated Mamluk metalwork fittings in citadels is also almost non-existent: as citadels acted as the residence of consecutive rulers throughout the entire period, a continuous renewal of their internal decoration must have taken place, whether instigated by wear and tear, an economic need to reuse metals, or by a wish to annihilate physically the presence of the former ruler.<sup>4</sup> An exception to this practice is the citadel of Aleppo which was used and added to in the Mamluk period but the gates of which still contain doors whose inscriptions relate to their Ayyubid patron.<sup>5</sup> It is safe to assume that far more profusely decorated doors at one time embellished the houses of the Mamluk elite. This is attested by al-Maqrīzī who describes the door of the house of Amir Aqqūsh al-Rūmī as follows: “its door is of brass of marvellous workmanship (*badīʿ al-ṣanʿa*) resembling the door of the *bīmāristān* of al-Manṣūrī”.<sup>6</sup> As the door referred to was a huge lavishly decorated door of the overall star pattern type (cat. no. 3/1), it makes one wonder about the magnitude of other lost fittings from secular environments.

A strict connection between a type of door, grille or knocker to a certain type of building seems not to have existed, as shown for example by doors of the overall star pattern type that are found in a mosque, a mausoleum, *madrasa*, *khānqāh*, a house, or a *bīmāristān*. One door type, i.e. that of the metal bands, is, however, closely connected to gates and *khāns*, which is understandable in the light of their defensive and protective qualities. Their presence at the entrance of mausoleums (cat. nos. 23/1 and 25/1) and a *madrasa* (cat. no. 18/1) in Jerusalem shows that this type was not exclusive to structures of a more worldly nature.

Without exception, metalwork fittings, whether installed in Cairo or in one of the regional centres, occupy conspicuous positions in these predominantly religious buildings. In what follows, the specific locations of doors, window grilles, and knockers will be inventoried in the various centres, and the hierarchies between different types assessed if two or more types were installed in one and the same building.

When only one metalwork door was present in a religious building in Mamluk Cairo, it was without exception located on the exterior. There, the most popular location for metalwork doors was the entrance portal where doors with exuberant designs were favoured as eye-catchers, guiding the passer-by to the entrance of the building. The façade of Mamluk constructions most commonly contained only one principal entrance that gave access to the public. This is not surprising as buildings were either of relatively small size, or only the façade (or part of it) was visible especially since constructions were often squeezed into confined lots or gap-sites as space had become limited in certain areas, for example Bayn al-Qaṣrayn in Cairo, that were favoured by the Mamluks. A few cases still, however, attest to the existence of multiple entrance doors.

<sup>1</sup> See for example Ibn Ṣaṣrā (1963) I, 243 and II, 184 who relates that when the belongings of viceroy Tankiz were seized in 740/1340 these amounted to eight hundred camel loads of gold, silver, garments, and the like.

<sup>2</sup> Only doors faced with oblong metal bands remain in palaces in Cairo, and none of these are engraved or otherwise decorated. Doors entirely covered with oblong bands are: *qaṣr* Bashtāk (736-40/1335-39), see Revault & Maury (1975-83) II, pl. 6a and *maqʿad* al-Ghūrī, see idem III, pl. 20b. Doors with a limited number of undecorated bands are located in *qaṣr* Amir Ṭāz (d. 763/1362), see idem I, pl. 37 and *maqʿad* Mamāʾī (probably built during the reign of Sultan Qāitbāy), in idem I, pls. 6, 8, 11.

<sup>3</sup> Fabri (1975) II, 510 notes, while visiting Sultan Qāitbāy in his palace, that you had to pass 12 doors of iron in the palace before the sultan could be reached. Van Ghistele (1976), 23 mentions “beautiful grilled windows, all gilded” when visiting the palace of the same sultan in 1482-83 AD.

<sup>4</sup> For earlier re-uses of palatial fittings, see the doors and beams decorated with figural imagery originating from the Fatimid palaces and re-used in the religious complex of Sultan al-Manṣūr Qalāʾūn, published in Pauty (1931), 49-52 and Sayyid (1999), 121.

<sup>5</sup> For two doors ordered by al-Malik al-Zāhir al-Ghāzī Yūsuf in the citadel of Aleppo, dated 608/1210-11 and 606/1208-9, see cat. nos. IV/1 and IV/3.

<sup>6</sup> Maqrīzī (1953) II, 53. Amir Aqqūsh al-Rūmī was murdered in 709/1310.

The presence of two almost identical medallion doors (cat. nos. 39/1 and 39/2) in the mosque of Qāḍī Yaḥyā Zayn al-Dīn (848/1444) in Cairo can be explained by the fact that the building was free-standing and located between important thoroughfares. In other cases where the exterior contained more than one metal-faced door, only one was intended for the larger public.<sup>7</sup> However, even in the free-standing buildings of the Qarāfa area, where space was widely available, constructors favoured a single entrance door with metal facings surrounded by handsomely decorated entrance portals that easily guided the visitor to its interior.

In the interior of religious buildings in Cairo metalwork doors are also given high visibility and prominence, not least because of their use in multiples. Two main locations can be distinguished. Firstly, multiple copies of either the medallion type or of the metal bands type are located in the *sahn*, leading on to chambers behind it. This presence of duplicates in one space creates a sense of unity while at the same time it establishes a clear non-hierarchical sensation. Secondly, metalwork doors of the metal bands type sometimes occur in multiples in the vestibule and corridors leading to the *sahn* or to other functional entities such as an attached mausoleum. The latter became fashionable especially in the later Burjī period, an explanation for which will be given shortly.

When different types of metal doors were installed in a single religious building in Mamluk Cairo, they were allocated fixed positions according to a clear hierarchy. The most conspicuous location, i.e. the entrance portal, was reserved for those doors that boasted the highest quantity and complexity of the applied metal. The buildings constructed in the Burjī period, in particular, still show this grading: the *madrasa* and *khānqāh* of Sultan Barqūq (786–88/1384–86), for example, has an embossed and silver-inlaid door of the overall star pattern type (cat. no. 26/1) at the entrance, whereas the *sahn* is provided with six identical doors (cat. nos. 26/3 to 26/8) of the medallion type with scant traces of silver on their epigraphic bands.<sup>8</sup> An even more frugal use of metal was applied in the same building to the wooden window shutters (cat. nos. 26/14 to 26/19) in the façade, to which engraved metal bands were nailed and which were also worked in large numbers. When two different doors were positioned in the exterior, as in the case of the *madrasa* of Sultan al-Ghūrī (908–9/1503), again the entrance door (cat. no. 53/1) in the façade was the most lavishly decorated; it was of the overall star pattern type, whereas a medallion door (cat. no. 53/4) was set at the back of the building, leading on to a narrow passageway.<sup>9</sup> In its interior, the use of metal was even more curtailed, as there are a multitude of identical doors decorated only with metal bands. This idea of installing the most exuberantly decorated metal door at the building's entrance is not a Mamluk invention, but is already encountered before the Mamluk period, as is shown by the door of the overall star pattern type (cat. no. I/1) at the entrance to the *bīmāristān* of Nūr al-Dīn b. Zengī (549/1154), whereas the interior door (cat. no. I/3) leading to the courtyard is embellished with metal bands only.

This hierarchy between the different doors really developed from the moment doors of the medallion type were introduced in multiple numbers in Mamluk buildings, as occurred in the *madrasa* and *khānqāh* of Sultan Barqūq (786–88/1384–86) in the early Burjī period.<sup>10</sup> Within a few years, a medallion door (cat. no.

<sup>7</sup> Examples are the metal-covered door (cat. no. 53/4) at the back of the *madrasa* of Sultan al-Ghūrī (908–9/1503) and the two metal side doors (cat. nos. 47/3 and 47/4) in the mosque of Amir Qajmās al-Iṣḥāqī (884–86/1479–81). These doors might well have served either for the employees of the building or in the former case as an easy entrance for the inhabitants of the quarter situated at the rear of the building.

<sup>8</sup> Of the constructions in the Baḥrī period, only the mosque and mausoleum of Amir Ulmās al-Nāṣirī (729–30/1329–30) still has two different types of metalwork doors: with the star pattern door (cat. no. 15/1) positioned at the entrance and a door with metal bands (cat. no. 15/2) in the interior, the hierarchy is already apparent.

<sup>9</sup> A comparable situation is visible in the mosque of Amir Qajmās al-Iṣḥāqī (884–86/1479–81), where a medallion door (cat. no. 47/1) is located in the entrance portal but the other exterior door (cat. no. 47/4) just east to the entrance door is embellished with engraved metal bands only. The latter type of door also recurs in the interior of the building.

<sup>10</sup> Of the earliest extant medallion door (cat. no. 7/1), the one in the name of Sunqur al-Ṭawīl, the original position is lost.

28/1) was installed for the first time in an entrance portal, as shown in the *madrasa* and mausoleum of Amir Maḥmūd al-Ustādār (797/1394–95). It was obviously deemed a worthy alternative to overall star pattern doors, which until then had dominated this specific location in the façade. From this time on medallion doors were to be dominant in entrance portals in Mamluk religious buildings in Cairo. The hierarchy among types of doors is also obvious when a medallion door is installed in the entrance portal. The remaining metalwork doors in the interior are of the frugally decorated metal bands type.<sup>11</sup> All in all, the type of door installed at the entrance portal was used only once in a given building.<sup>12</sup> However, the role of the overall star pattern door was not at an end: from time to time they returned to the fore, and when they did, they pushed the other two types to less visible positions.

How can this development of different types of metalwork doors in Cairo be explained? Firstly, designers might well have sought more variation of designs to fulfil the need to differentiate clearly between particular spaces within a building. Secondly, the urge to apply the medallion design on a metalwork door might have been stimulated by the success of the design on other media or objects in religious buildings such as the bookbindings of Qurʾāns, marble slabs, and pyramidal lamps, a theme that has been discussed in Section 3.5. Thirdly, restrictions to the financial input of the patron caused by economic distress might have stimulated metalworkers to create an alternative for the time-consuming manufacture of the overall star pattern type. The design of the medallion type, stretched out on the entire wooden support provided a luxurious alternative to the overall star pattern type while at the same time its more frugal use of metals was advantageous, for metals were especially sought after in times of dearth. Both the doors of the metal bands type and those of the medallion type had the added advantage that they were readily reproduced, the easy multiplication of a limited number of cast wedges of the medallion saving the metalworker considerable time.

The only exception in Mamluk Cairo in which not only the type but also the location of doors in the interior of a building was highly original is the *madrasa* of Sultan al-Nāṣir Ḥasan. The designer chose doors of the overall star pattern type – the type normally used only on the exterior within the entrance portal – for installation in the *minbar* (cat. no. 24/5), in the two side walls of the *qibla īwān* (cat. nos. 24/3 and 24/4), and in the *qibla* wall (cat. no. 24/6). This deliberate choice of installing this type of door in unique positions fits well with the ambition of the entire enterprise and the patron's lavish expenditure.<sup>13</sup> The door (cat. no. 24/6) located in the *qibla* wall, which originally held two of which only one remains today, was entirely covered with gold, silver, and copper inlay with a lavishness that was also unique with Mamluk doors. The goal of installing these exuberantly worked doors in this specific location was clearly to direct as much attention as possible to the *qibla īwān* and can be explained by the atypical composition of the building. Since the architect had chosen to locate the mausoleum beyond the *qibla* wall of the cruciform four-*īwān* plan of the *madrasa* proper, entrance to it could be gained only through the impressive *qibla* doors. It was the latter doors that gave prominence to the sultan's mausoleum.

In the *madrasa* of Sultan al-Nāṣir Ḥasan, a ranking among the doors was not established by the introduction of new types but by a clear differentiation between their size, the quality of the execution, and

<sup>11</sup> Examples of this are the *madrasa* and mausoleum of Sultan Qāitbāy (874–79/1470–74), the mosque of Amir Qajmās al-Ishāqī (884–86/1479–81), and the *madrasa* of Amir Azbak al-Yūsufī (900/1495).

<sup>12</sup> The exceptions to this are the two medallion doors (cat. nos. 34/1 and 34/2) in the façade of the *madrasa* of Qādī ʿAbd al-Bāsiṭ b. Khalīl (822–23/1419–20) and the two medallion doors (cat. nos. 39/1 and 39/2) in the façade of the freestanding mosque of Qādī Yahyā Zayn al-Dīn (848/1444) in Cairo, all of which serve as entrance doors.

<sup>13</sup> For details of the lavish expenditure on this building, see Harithy (1992), 170–71.

the application of precious metals. Both the entrance door (cat. no. 24/1) and door in the *qibla* wall (cat. no. 24/6) were monumental in size, an overwhelming quality that was denied to the *minbar* door (cat. no. 24/5) and to the ones (cat. nos. 24/3 and 24/4) installed in the side walls of the *qibla īwān*, none of which exceed a height of 260 cm.<sup>14</sup> Although the techniques of casting and engraving were used on all, there was a marked difference in the execution of the individual plaques. Regardless of the huge surface, the metalworker chose a refined and detailed mode of working the individual plaques of the entrance door, whereas the other smaller doors without inlay were worked more coarsely. The choice of installing the gold- and silver-inlaid doors in the *qibla* wall instead of in the entrance portal can be explained by the unique position of the mausoleum behind it, as has already been alluded to above. Perhaps the fear of the pilfering of the gold and silver inlay might have warned the constructors of the building not to position it at the exterior of the *madrasa*. Besides this, the robustness of the design of the entrance door, with its bosses in high relief and its large, indeed overwhelming, star units, expressed impenetrability and grandeur at the same time, making it entirely suitable for a façade.

The hierarchy between the different types as reflected in the different locations allocated to doors of different types in a single building in Cairo is absent in Damascus. There the Umayyad mosque, the only religious building that still holds Mamluk doors, houses only one type of metalwork doors. Of the seven doors of the panelled type that remain in the mosque, it is the difference in size that most clearly differentiates them from one another. Both in the east and west wall the huge centrally located door (i.e. cat. nos. 29/1 and 57/1) is flanked by two much smaller ones (cat. nos. 31/3, 31/4 and 31/1, 31/2, respectively). The close proximity of the latter visually enhances the monumental feel of the central one. Regardless of their size and its implications, however, the metalworkers responsible for them have given them all a robust and strong imprint. On the whole there is a strong internal coherence with respect to the technique, material, and modes of decoration, irrespective of the fact that five different patrons were involved. The development of a house style gives the impression that in their restoration activities the Mamluks were eager to ensure the unified character of the mosque's otherwise quite plain façade, in which the doors played an important part as decoration. The individuality of metalworkers and patrons is evident, however, in the execution of details, such as the use of rhymes (cat. no. 31/3), the creation of calligraphic images in playing with lengthened *hastae* (cat. no. 29/2: Plate 119), and the proliferation of numerous differently shaped rosettes (cat. no. 57/1: Plate 245).

In Jerusalem, a hierarchy among metalwork doors is found only in the mausoleum of Jamāl al-Dīn Bahlawān (al-Kīlānīya) where a door (cat. no. 23/1) entirely covered with metal bands is located in the entrance portal whereas the interior door (cat. no. 23/3) and the window shutter (cat. no. 23/5) have only four metal bands distributed on their wooden surface. In other constructions in this city there is no apparent hierarchy visible as most buildings contain only a single metal-faced door.<sup>15</sup> If they are present at all, they are installed in the façade, which makes them visible to all passers-by. The doors differ considerably, however, in their execution, as they are either entirely covered with quite rough undecorated metal bands or partly overlaid with minutely executed engraved bands. The same holds true for the extant doors in Aleppo; if a metal-faced door is present it is not only unique within the building – the other doors being executed in

<sup>14</sup> The measurements of the entrance door and the one installed in the *qibla* wall are 604 cm x 348 cm and 472 cm x 260 cm, respectively.

<sup>15</sup> Another exception to this is the *madrasa* al-Ashrafiya which had at least two metalwork doors, one (cat. no. 48/1) fixed at the entrance with metal bands decorated with engraved titles and a religious verse and another (cat. no. 48/2), which is missing, in the court of the upper floor. It is impossible to compare these two doors, for details in the description of the missing door, which is provided by the *waqf* of the building, are lacking. For the *waqf*, see Ibrāhīm (1961), 417, 420.

wood only – but also located at the most visible of places, i.e. in the entrance portal. This isolated occurrence of one metalwork door per building implies that ideas of hierarchy between metalwork doors are not expressed in Mamluk buildings in this city.

In accordance with the high visibility of doors on the exterior of Mamluk buildings, the metal decorated window grilles that remain *in situ* are mostly located in the façade in the religious buildings of the various Mamluk centres. In general, they serve to allow both light and air to enter while at the same time they protect the construction against intruders when the window shutters are open. In the interior of Mamluk buildings they are also often positioned to maximise ventilation. Although they are highly visible in the façade, constructors usually did not emphasize their presence much, except in the case of *sabīls* or *sabīl-kuttābs*. In this building type, which gained in popularity during the Mamluk period either as an independent structure or integrated within a multi-functional complex, they constitute the dominating visual component.<sup>16</sup> This is not only brought about by their large size but also because they were usually installed in pairs in these structures which were awarded a prominent place in the façade symbolising the patron's charity. Their visibility is further enhanced as they are positioned near the ground to enable the passer-by to reach the water inside. The use of metalwork grilles for encasing burial places or reliquaries within mosques, like the Ottoman grilles found in the Umayyad mosque in Damascus, is not attested today by remaining Mamluk grilles executed in metal.<sup>17</sup> However, this application in the Mamluk period is confirmed by Ibn Iyās, who recorded the ordering of an iron grille by Sultan Qāitbāy intended for the *maqṣūra* in the mausoleum of the Prophet Muḥammad in Medina.<sup>18</sup>

The multiple decorated metalwork grilles present in a Mamluk building are on the whole of a single type, as is shown for example by the use of overall geometric grilles (cat. no. 10/1: Plate 29 and cat. no. 10/2: Plate 30) in the *madrasa* of Amir Ṭaybars al-Wazīrī (709/1309–10) in Cairo and the installation of three different specimens of the bosses-and-bars type (cat. nos. 49/1 to 49/3: Plates 215 to 218) in the mausoleum of Azdamur min Mazīd in al-Anṣarī near Aleppo (893/1488). This creates visual unity and certainly is not only a matter of money. While often the metalworkers confined themselves to simply copying one design, the two or even three grille makers in al-Anṣarī showed their individuality by adding different openwork bosses, trefoils, and texts of variable size, one of which was even executed in mirror image.<sup>19</sup> It is not known how these grilles were mutually related to each other and whether a hierarchy was established through their specific location within the building, as they have been taken out of their original context.

Only in the *madrasa* and mausoleum of Amir Maḥmūd al-Ustādār (797/1394–95) in Cairo did the grille maker install grilles of two different types. A single grille of the geometric type (cat. no. 28/4) is positioned at the centre and is flanked by grilles of the bosses-and-bars type (cat. nos. 28/2, 28/3 and 28/5) on either side. Remarkably, however, the centrally located and unique piece does not in the least dominate the façade. It is the two grilles (cat. nos. 28/2 and 28/5) located at the far ends that attract most attention, not only because of their size, which was evidently wider than the other three grilles, but even more so because

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<sup>16</sup> See for example the integrated *sabīl* in the mosque of Amir Qajmās al-Ishāqī (884–86/1479–81) or the one built as an entity ordered by Sultan Qāitbāy (884/1479–80).

<sup>17</sup> For a comparison of the use of iron and steel grilles in architectural settings in Iran that are contemporary to Mamluk grilles or that are of later date, see Allan & Gilmour (2000), 283–92.

<sup>18</sup> Ibn Iyās (1960–92) III, 203–4.

<sup>19</sup> Another example of different variations on a single theme are found in the *madrasa* and *khānqāh* of Sultan Barqūq (786–88/1384–86), where different star pattern grilles were installed.

of the addition of silver inlay on them.<sup>20</sup> Remarkably, the latter inlay was applied on either side of the bosses and bars, which implies that they were intended to be seen both from the exterior and from within the interior. The latter intention was indeed made possible as people made their way past the first grille next to the entrance door when they entered the building. It is difficult to explain why only these two grilles were inlaid. Certainly their precise location does not explain it for the grilles were installed far apart from each other at different ends of the façade. A shortage of funds limiting the use of precious metals to two specimens only, or a workshop wishing to show off its technical abilities and variety of designs, might better explain this situation. One also must take into account that the maker sought to create a heightened visual effect with these different grilles.

Before going on to discuss the location of doorknockers, it is important to observe that within the Mamluk period embellished metalwork doorknockers are absent on the wood panelled doors and the wooden overall star pattern doors that still survive in certain structures.<sup>21</sup> The intricate decoration on such carved and inlaid wooden doors implies they were not of cheap workmanship, so frugality does not explain their absence. Although allowance should be made for the loss of such objects, for doorknockers could of course be easily detached from their original location, it does suggest that in the minds of artists or patrons of that time there was a specific relationship between doors decorated with metal plaques and metal doorknockers. The obvious explanation for this is that the same metalworker who designed and executed the metalwork door was also responsible for integrating the doorknocker into the door's initial design, and was commissioned to produce both objects. The question whether the extant examples support the proposition that a close link existed in initial layout, detailed designs and decoration between doors and doorknockers will be addressed in Section 4.2.

On the whole, Mamluk doorknockers that are still *in situ* in religious buildings are found in pairs attached to metalwork doors in Cairo and Jerusalem.<sup>22</sup> Their omission on metalwork doors belonging to the panelled type in Damascus, and the absence of traces that would have suggested their former presence, suggests they were not deemed a requisite part of this type of door. The survival of the doorknocker (cat. no. 42/1) that formerly belonged to the *madrasa* of Qāḍī Quṭb al-Dīn Muḥammad al-Khaiḍarī (878/1473–74) in Damascus, however, shows that doorknockers were indeed used on doors in this regional centre, but we remain ignorant as to the type of door to which it was attached as the Mamluk door of this *madrasa* has disappeared.

With respect to the position of doorknockers, there is a clear difference between those attached to overall star pattern doors, those on medallion doors, and those on doors of the metal bands type. Of the overall star pattern doors only a minority still have doorknockers, that is to say hangers attached to the doors with suspension pins only, as suspension plaques were on the whole not used on this type of door.<sup>23</sup> Their location on these doors seems to have been arbitrarily chosen. They are found either at the top, in the upper

<sup>20</sup> The silver-inlaid grilles measure 243 cm x 140 cm and 250 cm x 141 cm, respectively, while the other ones are 219 x 87 cm, 212 x 88 cm, and 221 x 123 cm.

<sup>21</sup> This did, however, occur outside the Mamluk realm, as shown by the embellished doorknockers attached to the wood-carved entrance door and to the door leading to the main dome chamber of the shrine of Aḥmad Yasavī (799–801/1397–99), in Turkestan.

<sup>22</sup> There is one exception, the single doorknocker (cat. no. 41/2) on the entrance door to the *madrasa* of Sultan Qāitbāy (880/1475) in the Qarāfa cemetery. An explanation for this might be that the door consisted of a single leaf only, which is also an unusual occurrence, as two-leafed metalwork doors were the norm in Mamluk times.

<sup>23</sup> The absence of suspension plaques on overall star pattern doors was already known before Mamluk times as is shown by the doorknockers (cat. no. I/2: Plate 269) attached to both the overall star pattern door (cat. no. I/1) in the entrance of the *bīmāristān* of Nūr al-Dīn b. Zengī (549/1154) and those (cat. no. I/4: Plate 270) attached to its interior courtyard door (cat. no. I/3) that was decorated with metal bands only. This interior door does have suspension plaques whereas the hanger on the entrance door does not.



central section, or in the lower half of the central star field, where they were suspended either right through or deliberately off the main star units. The result was that the door-hangers, once they were put in place, concealed parts of the door's decoration, and thus in a way hindered the overall impact of the door's design.<sup>24</sup> The absence of a clearly defined space intended for the suspension of doorknockers in the initial design of an overall star pattern door might at least in part explain why fewer knockers are present on doors of this type than on medallion doors.

For doorknockers attached to doors of the metal bands type, whether installed in Jerusalem or Cairo, their location was also not fixed as the simple design of such doors did not immediately evoke a specified location for a knocker. Nor were they deemed to be a vital part of the door as often they are absent without a trace as to their former suspension. If they were present, it seems, however, to have been understood that on doors with two metal bands only, the doorknockers should be attached below the upper band on the wooden support. On doors entirely covered with bands, their location was random.

In contrast to this, medallion doors the surface of which was only partly covered with metal show a more consistent picture of the suspension of doorknockers. The majority of such doors still have knockers attached to them, or portray clear signs of their former presence by means of holes in the wood or the imprints of the now lost round suspension plaques. This suggests that in the case of medallion doors the idea that door and knocker formed an entity had taken root. Secondly, there seems to have been a standard suspension position on the wood support, located above the central medallion and enclosed within the triangular corner-pieces. The height at which the doorknockers were suspended depended on the height at which the medallion was attached. Thirdly, in comparison with the overall star pattern doors, the way that the knockers are attached interferes less with the door's design and could even be understood as an integral part of the layout. Only in some cases did the knockers overlap with the metal plaques, this being the case with the entrance door (cat. no. 37/1: Plate 153) to the mosque of Amir Jānī Bak al-Ashrafī (830/1427) and that (cat. no. 47/1: Plate 195) of the mosque of Amir Qajmās al-Ishāqī (884–86/1479–81), where the knockers partly conceal the trefoils of the upper two triangular corner-pieces, something that should be understood as bad application, not as bad design.

The presence of multiple doorknockers in a single Mamluk structure can easily be explained by the fact that they were attached to a multitude of identical doors that were located within the building. If multiple pairs were suspended, they were most often of the same type, as is clear in the case of the knockers, (cat. nos. 35/2, 35/4 and 35/6) attached to the exterior and interior doors in the *madrasa* of Sultan al-Ashraf Barsbāy (816–17/1423–24). A distinction between different knockers in one building was however sometimes made deliberately, depending on the importance of the location of the door to which they were attached. This is visible in the mausoleum of Ṭashtamur al-ʿAlāʾī (784/1382–83) in Jerusalem where, surprisingly, the doorknocker on the internal door leading to the mausoleum (cat. no. 25/5) was of more complicated make than the simple rings (cat. no. 25/2) on the entrance door. Also in the *madrasa* of Sultan al-Nāṣir Ḥasan were two different types of doorknockers used, with those (cat. no. 24/2) on the entrance door being of the interlace type while two hangers (cat. nos. 24/9) with a closed round disk topped with bosses were attached to the door in the *qibla* wall. The other three star pattern doors in the same building do

<sup>24</sup> The same phenomenon had already been encountered earlier, for example on the entrance door (cat. no. I/1) of the *bīmāristān* of Nūr al-Dīn b. Zengī (549/1154) in Damascus and on the door (cat. no. VII/1) to the mausoleum of ʿAwn al-Dīn in Mosul (631–57/1233–59).

not carry doorknockers, a fact which is perhaps related to their lesser dimensions and less intricate design compared to the other doors.

All in all, the general picture that emerges is that the most ornately decorated fittings were granted a conspicuous place in the façade of a Mamluk building. This emphasis on the exterior, especially in that area close to the entrance portal, exemplifies the strong outward-looking focus of Mamluk buildings at large. Metalwork doors and grilles with ornately decorated surfaces were of course chosen not only as a tool to guide the passer-by to the entrance of a religious building. Their unique appearance and function made them the showpiece of the façade, giving the visitor a foretaste of the exuberance of a building's interior decoration, while at the same time it provided a clue to the money spent on the entire project.

#### 4.2 INTERPLAY BETWEEN THE METALWORK FITTINGS

Often doors, doorknockers, grilles, and window shutters are found in close proximity to one another, for example in the façade of a building. This vicinity prompts the question whether they were initially conceived as a unity, which might, for example, be expressed by their sharing the same techniques and designs. In what follows most attention will be focused on the possible correspondences between doors and doorknockers as the most obvious connection is expected between them, as they shared the same space, whereas other links such as between doors and grilles, or grilles and window shutters, will be discussed more briefly.

Given the close spatial link between doors and doorknockers a direct relationship in design, decoration, and technique might be expected between them. In the ensuing discussion of this plausible relationship, the questions that are raised will allude to the situation in Cairo, Aleppo, Jerusalem, and Hebron, as the majority of doorknockers still *in situ* are found there. Though the provenance of one knocker (cat. no. 42/1) in Damascus is known, i.e. that of the *madrasa* of Qāḍī Quṭb al-Dīn Muḥammad al-Khaḍarī (878/1473–74), the loss of the door to which it was attached excludes it from the discussion.

It is surprising to observe that in the majority of cases the visual evidence is unambiguous: doors and doorknockers were conceived independently from one another insofar as design, technique, and decoration were concerned. Firstly, the evidence shows that there is no clear link between a certain type of door and a certain type of knocker. Of the doorknockers remaining *in situ*, it is observed that in Cairo and Jerusalem those of the holes-and-bosses type were suspended only on doors of the medallion type and on doors characterized by metal bands. In Aleppo a pair of this type (cat. no. 22/2) was suspended on an overall star pattern door.<sup>25</sup> The more exuberant interlace type was suspended on doors of religious buildings in Cairo on those of the overall star pattern type and on medallion doors alike. And those hangers consisting of an embossed disk were attached to an overall star pattern door in Cairo and to a door with metal bands in Jerusalem.

Secondly, an apparent link between the design on doors and that of doorknockers is absent, as both categories remain loyal to their own sets of characteristics. The survey of the extant hangers as discussed in Sections 2.3.1 to 2.3.3 reveals the picture of three coherent groups of doorknockers the designs of which had

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<sup>25</sup> In pre-Mamluk times, doorknockers of the holes-and-bosses type, too, were suspended on overall star pattern doors, like those (cat. no. I/2) suspended on the entrance door (cat. no. I/1) to the *bīmāristān* of Nūr al-Dīn b. Zengī (549/1154) in Damascus and that (cat. no. VII/2) attached to the entrance door (VII/1) of the mausoleum of 'Awn al-Dīn in Mosul (631–57/1233–59).

crystallized in the early stages of the Mamluk period. Their sharing of a single space with doors did nothing to influence their respective designs, and so the effect of a mirror image is missing.

Thirdly, a connection in technique and decoration between doors and doorknockers can also not be pinpointed. Plain cast knockers – for example cat. no. 18/2 – are attached to either basic doors entirely covered with hammered iron bands or to those that are partially embellished with metal bands that contain well-executed engraved inscriptions (cat. nos. 41/5, 41/13, 41/19, 41/21). A similar contrast occurs between the surface of the metal facing of a door (cat. no. 35/1) which is entirely engraved with foliate motifs while the knocker's surface (cat. no. 35/2) is left undecorated. Another example in which there is no link in technique is the doorknocker (cat. no. 37/2) attached to a silver-inlaid door (cat. no. 37/1) in the mosque of Amir Jānī Bak al-Ashrafī (830/1427) which, unlike the door, is devoid of silver inlay. The same holds true for the knocker (cat. no. III/2) manufactured and described by al-Jazarī for the palace doors (cat. no. III/1) of the palace of Muḥammad b. Qarā Arslān in Āmid, which were of base metal in contrast to the door itself, which was, according to its description, inlaid with precious metals.

There are only three significant exceptions to the observation that doorknockers should be perceived as an autonomous category conceived independently from doors. The first is the pair of inlaid doorknockers (cat. no. 24/9: Plates 74, 75) attached to the *qibla* door (cat. no. 24/6: Plates 67–71) in the *madrasa* complex of Sultan al-Nāṣir Ḥasan. There, both the technique and the decoration clearly overlap with the treatment of the door itself. This correspondence is most visible in the overall use of inlaid precious metals. In each case, the main design is executed in silver, while gold is used as a contrasting device for smaller details only. These two knockers also make use of identical motifs of decoration: epigraphy and foliate stems interspersed with naturalistic flowers such as the lotus and 5-petalled peonies were used extensively on both of them. They also share the positioning of calligraphic texts in the central tier of tripartite roundels. Only the use of radiating texts was restricted to the doorknockers, on which it corresponded with the round shape of the entire artefact. This visual and technical connection between the door and the pair of doorknockers makes it clear that they were perceived as an entity by the designer and executed as such. This close relationship is underwritten by the inscription on one of the doorknockers, which implies an intimate link as it refers not to the doorknocker but to the door: 'This blessed door was made [...]' (*'amila hādhā al-bāb al-mubārak [...]*).

Such an inscription, suggesting that the door and the doorknocker were designed as one, is also found on a doorknocker (cat. no. 4/2) made as part of a large restoration campaign in 685/1286 for the mausoleum of Ibrāhīm in Hebron, and on the doorknocker (cat. no. 42/1), which originally belonged to the *madrasa* of Qāḍī Quṭb al-Dīn Muḥammad al-Khaiḍarī (878/1473–74).<sup>26</sup> These inscriptions make it clear that at entirely different stages within the Mamluk period doors and doorknockers were conceived as an entity. The gap in our knowledge concerning the precise design and decoration of the door in Damascus and of the doorknocker in Hebron makes it impossible to compare the compatibility in technique and design of the combined fittings.

The second exception is the pair of doorknockers (cat. no. 24/2: Plates 57, 58) on the former entrance door (cat. no. 24/1: Plates 53–55) to the same *madrasa* of Sultan al-Nāṣir Ḥasan in Cairo. Their round shape, consisting of an openwork design of a star and surrounding trefoils, copies the medallion shape of the huge 16- and 12-pointed star units of which the design on the door is built up, and which are so clearly

<sup>26</sup> The text on the doorknocker in Hebron reads: 'Ordered the construction of this blessed door [...]' (*amara bi-inshā' hādhā al-bāb al-mubārak [...]*). 'What was made for the door of the *madrasa* [...]' (*mimmā 'amila bi-rasm bāb al-madrasa [...]*) is found on the doorknocker that once belonged to the *madrasa* of Qāḍī Quṭb al-Dīn Muḥammad al-Khaiḍarī (878/1473–74) in Damascus.

defined because of the use of high relief bosses. The design of the knocker mirrors the geometric pattern on the door. In addition, the size of the doorknockers not only matched the formidable scale of the door the height of which exceeded 6 metres, but was also adjusted to that of the 12-pointed star units on the door so that the former were not dwarfed. Clearly, the door and the doorknockers were designed as an entity. The third special case is the inlaid knocker (cat. no. 26/2: Plate 83) originally attached to the inlaid entrance door (cat. no. 26/1: Plates 79–82) of the *madrasa* and *khānqāh* of Sultan Barqūq (786–88/1384–86). There also the compatibility goes further than just the sharing of the technique and the use of both base and precious material. Firstly, the designer positioned a boss in relief at the core of the hanger, which clearly corresponds with the bosses in high relief above the multiple star units on the door. Though such units were quite common on overall star pattern doors, the presence of a central boss on a doorhanger belonging to the interlace type is unique, and should be understood as a means of unifying the design of both the door and its hanger. Secondly, the bosses on both the door and the hanger are adorned with radiating inscriptions that give the name of the patron crowned with a star.<sup>27</sup> The symbolism evoked by the stars and radiating inscriptions was the same: a strong celestial presence surrounding the patron.

The three examples just given should be deemed exceptional. The metalworker's choice to relate them visually and technically to the doors was unique and is connected to the unusually grand perception of the doors themselves. In terms of size, meticulous craftsmanship, and technical virtuosity these three doors are certainly of the highest quality Mamluk craftsmen achieved for metalwork doors. Thus it is not totally surprising that both door and knockers were designed as one, and that both of them were executed in a grand way.

Irrespective of these three special cases, the majority of doorknockers and doors are not immediately related to one another and were created along independent lines. This has a number of consequences. First of all, as knockers belonging to the holes and bosses or the interlace type were used throughout the Mamluk period, the typology cannot be used for the purpose of dating doorknockers which have become separated from the doors that they originally adorned. The dates attributed to doorknockers in the sales catalogues of auction houses should therefore be treated with great caution.<sup>28</sup> Furthermore, owing to the loose formal connection between doors and doorknockers, the attribution of detached doorknockers to their original provenance is also not straightforward. It is simply impossible to deduce the shape, size, or any other formal features of a door from the outward appearance and the technique used for the decoration of a doorknocker, and *vice versa*. And even within one and the same building there does not seem to have existed a rule about types or designs, or about the quality of their execution: sometimes both the meticulously executed entrance door and the far more frugally decorated interior doors all wore identical doorknockers.<sup>29</sup> In another case there was a clear communality in the design but a difference in the quality of execution between differently positioned doorknockers.<sup>30</sup> And thirdly, one and the same building could hold knockers of different types and techniques.<sup>31</sup>

<sup>27</sup> In the case of the bosses adorning the door, the star was formed through the linking of the upper *hastae* of the radiating inscription with one another. In the case of the doorknocker, a star-headed nail pinned through the boss crowning the central boss provided the celestial element.

<sup>28</sup> For example, a doorknocker, Christies (London, 10 October 2000), 154, lot 284, was dated to the 14th century, an admittedly approximate date, but still something that is difficult to assess on the basis of type alone.

<sup>29</sup> This was the case (cat. nos. 35/1 to 35/6) in the *madrasa* of Sultan al-Ashraf Barsbāy (826–27/1423–24).

<sup>30</sup> The inlaid and superbly executed doorknocker (cat. no. 26/2) of the entrance door to the *madrasa* and *khānqāh* of Sultan Barqūq (786–88/1384–86), with its different planes contrasts with the more simply and flatly (even unimaginatively) executed versions of the same theme applied on one of the interior doors (cat. no. 26/3), which can be attributed to a restoration campaign in the 19<sup>th</sup> or 20<sup>th</sup> century.

<sup>31</sup> This was the case with the knockers (cat. nos. 24/2 and 24/9) that were suspended on doors in the *madrasa* of Sultan al-Nāṣir Ḥasan.

In this discussion of the relationship between door and doorknockers, there is one more issue that still needs more attention, i.e. the height at which doorknockers were attached to doors and the implications this has. On doors in Cairo, whether doors were installed in the entrance portal or in the interior of religious buildings, doorknockers are on the whole attached above man-height and often even at an unattainable height ranging from 2.5 to almost 4 metres. This point of suspension not only hampered the visibility of these artefacts, but also denies them the possibility of being used to knock on the door.<sup>32</sup> This attachment height is entirely at odds with the dimensions of these knockers, the size and weight of which indicate that they were made to serve a practical goal. These impracticalities with regard to knockers were already encountered at an earlier stage elsewhere. Nāṣer-e Khosraw observed in the 10<sup>th</sup> century that the two silver rings on the entrance door to the Ka'ba in Mecca were attached too high to be reached whereas a smaller pair were attached at a lower height, allowing them to be touched by all.<sup>33</sup> Somehow the concept had taken root that doorknockers were an integral part of the layout of a door, regardless of their practical use.

The situation in Jerusalem and Aleppo is different as most of the knockers there are attached at an easily attainable height. This discrepancy between Cairo, on the one hand, and these regional centres, on the other hand, can partly be explained by the simple fact that doors in the capital city were of grander measurements than those in cities like Jerusalem and Aleppo. This difference exists in a more general way, as the scale and monumentality of religious buildings in the imperial capital commissioned by royal patrons and amirs alike exceeds that of those of more modest scale in the regional centres where royal patronage was much more limited.<sup>34</sup>

In some exceptional cases, however, the excessive size and weight of knockers did indeed hinder their practical use, as in the case of two doors (cat. nos. 24/1 and 24/6) in the *madrasa* of Sultan al-Nāṣir Ḥasan. The measurements of the cast knockers attached to the entrance door are a staggering 75 to 61 cm, whereas those on the *qibla* door are approximately 40 to 27 cm. If not for their size and attachment height of about four meters from the ground, then the weight of the solid brass knockers at the entrance portal would have impeded their use. Again, this is not unique for the Mamluk period, as the four doorknockers made to adorn the gateway of the *dār al-imāra* erected between 883 and 913 AD in the city of al-Manṣūra in Pakistan show.<sup>35</sup> Their dimensions even exceeded those of the *madrasa* of Sultan al-Nāṣir Ḥasan, as their height is about 80 cm. Their individual weight exceeded that of 50 kg.

The same question raised for doors and doorknockers should also be posed for doors and window grilles: can a close relationship be detected between the design and technique of doors and grilles that were positioned within a single place, like the façade of a building or the *sahn*? The matter can only be answered from the perspective of Cairo and Jerusalem, as there are no buildings extant in the other centres which contain both ornamental grilles and metalwork doors within the same visual space. Moreover, in the case of Cairo and Jerusalem, the number of constructions with both artefacts *in situ* and executed with ornate designs is very restricted, so that the results should be treated with some caution.<sup>36</sup> When they are compared

<sup>32</sup> There is only one exception to this rule, namely the lion-headed doorpins (cat. no. 3/2), which are all that remain of the entire doorknocker, on the entrance door (cat. no. 3/1) of the *madrasa*-complex of Sultan al-Manṣūr Qalā'ūn (683–84/1284–85). The easily accessible suspension height of 150 cm of the doorknocker attached to the right leaf of the door (cat. no. 1/1) of the *madrasa* of Sultan Baybars falls outside the scope of this discussion, as it is not of Mamluk origin, and was attached to the door only at a later stage.

<sup>33</sup> Nāṣer-e Khosraw (1986), 76.

<sup>34</sup> Meinecke (1985), 167.

<sup>35</sup> Nabī Khan (1990), 43, 45–47, 49.

<sup>36</sup> For Cairo, these are: the *madrasa* and *khānqāh* of Sultan Barqūq (786–88/1384–86), the *madrasa* and mausoleum of Maḥmūd al-Ustādār (797/1394–95), the mosque of Amir Qajmās al-Ishāqī (884–86/1479–81), and the mosque of Azbak al-Yūsufī (900/1495). In Jerusalem this is the mausoleum of Ṭashtamur al-'Alā'ī (784/1382–83).

it becomes clear that the techniques used on these two categories of fittings in a single building were not attuned to one another. This is best exemplified by the use of inlay for silver, which is either found on the door while the neighbouring grilles are devoid of it, or *vice versa*.<sup>37</sup> With respect to the design on these two categories of fittings, there are some overlaps, visible for example in the choice for a star design on a door and on a grille located above it.<sup>38</sup> The location of a tripartite blazon with the name of Sultan Barqūq on the medallion doors (cat. no. 26/3: Plate 85, and cat. nos. 26/5, 26/7, and 26/8) and on some of the grilles (cat. no. 26/10: Plate 94 and cat. no. 26/11) in the *sahn* also shows the recurrence of similar designs. On the whole, however, the overlaps in design and decoration are entirely generic. This suggests the idea that both were treated as isolated objects, with no other relationship than that had by any other fittings made of different materials in the same space. The absence of an immediate functional relationship between them might partly explain the lack of a visible relationship between grilles and doors. Moreover, it is quite possible that both types of artefacts were executed by different craftsmen so that there was no consultation about the design. From this one may conclude that the adherence of a given specimen to the characteristics of a particular type of door or window grille common in a certain period was more important than a visual or technical congruence between different kinds of metalwork fittings.

On the whole the constructors allowed the entrance doors surrounded by elaborately decorated portals to dominate the visual space of the façade, while the grilles in the façade were far less accentuated. Moreover, they were even deemed to be of secondary importance compared to the doors in their immediate vicinity as they were of minor size or because they were executed more coarsely.<sup>39</sup> However, the *madrassa* and mausoleum of Maḥmūd al-Ustādār (797/1394–95) is the one exception to this rule. It is there that the five adjacent grilles attract more attention than the entrance door simply because the metalworkers so successfully varied the designs, techniques, and decoration on them. The alternation of the inlay technique with its bi-coloured palette, deeply cast ornament that allows a play with light and shadow, and engraved designs on the different specimens catches the eye of the onlooker. Moreover the varied use on the different grilles of inscriptions, floral motifs, and blazons is remarkable. This degree of diversification of grilles within a single context is otherwise absent in Mamluk buildings where grilles on the whole show much more uniformity in design, and regardless of its successful outcome, this experiment was not repeated in other buildings in Mamluk Cairo.

To conclude this section, attention will be focused on possible relationships between window shutters and window grilles, on the one hand, and between shutters and doors, on the other hand. A link might be expected in the former case, as both operated in the same place; however, there is neither a visual nor a technical link between the specimens extant in the same location that tells of any such relation. Once again, these elements too were designed not as a unity but as separate entities.

<sup>37</sup> Silver inlay is present on the entrance door (cat. no. 26/1) of the *madrassa* and *khānqāh* of Sultan Barqūq but not on the grille (cat. no. 26/9) located above it. The same is true for the doors (cat. nos. 26/3 to 26/8) and the grilles (cat. nos. 26/10–26/13) in the *sahn* of the same building. The opposite is true in the *madrassa* and mausoleum of Amir Maḥmūd al-Ustādār (797/1394–95), where some of its grilles (cat. nos. 28/2 and 28/5) have silver inlay while the entrance door (cat. no. 28/1) is devoid of it.

<sup>38</sup> A star pattern is found on both the entrance door (cat. no. 26/1) and the grille (cat. no. 26/9) located above it in the façade of the *madrassa* and *khānqāh* of Sultan Barqūq (786–88/1384–86).

<sup>39</sup> Smaller sized grilles are found both in the entrance portal (cat. no. 26/9) and in the *sahn* (cat. nos. 26/10 to 26/13) of the *madrassa* and *khānqāh* of Sultan Barqūq (786–88/1384–86), while coarsely executed grilles (cat. nos. 50/3 and 50/4) are found in the mosque of Azbak al-Yūsufī (900/1494–95).

Doors and window shutters are, however, much more closely related in that the shutters share the design based on metal bands with doors of the metal bands type. On a more specific level, sometimes a decorative device, found on both the doors and the shutters in one and the same building, suggests the influence of a single workshop. This is exemplified by the presence of a floriated cartouche surrounding the inscription bands on the entrance door, on the interior medallion doors and on the window shutters in the *madrassa* and *khānqāh* of Sultan Barqūq (786–88/1384–86). Remarkably, there is further evidence of a similar overlap in the use of a particular motif on a door and on a shutter made for a single patron, but installed in two different buildings. The presence of a knotted floral design terminating the inscription bands on the entrance door (cat. no. 41/1: Plate 166) of the *madrassa* and mausoleum (874–79/1470–74) in the Qarāfa cemetery of Sultan Qāitbāy and on a shutter (cat. no. 43/3) in his *madrassa* (880/1475) suggests the output of a single workshop.

Although examples do exist of a visual unity, either between doors and doorknockers or between doors and window shutters, the majority of fittings *in situ* lack such an optical cohesion. Attention is focused on the embellishment of each component part of a fitting, as in the case of metal-faced doors and doorknockers, but when they are brought together in a close relationship it becomes apparent that they were not compatible from the start. This gives some insight into an attitude about aesthetics that is more concerned with the beautification of individual parts than with the impact the larger picture makes.<sup>40</sup>

#### 4.3 INSTALLATION OF FITTINGS AND THEIR RE-USE

How were the doors and grilles put into position? In the case of doors, the Mamluks used the same method for each type of door throughout the period: each leaf is equipped with two pivots at its outer edge, one at its upper and one at its lower end. These are positioned in cylindrical hinge sockets made for this purpose in both the lintel and the threshold, allowing the leaves to turn. The turning is always directed inwards, with the exception of the door (cat. no. 29/2) in the north wall of the Umayyad mosque in Damascus, the leaves of which fold outwards, which greatly augments the visibility of their metal facing, especially since – at least today – this door is always open to the public. In the case of window grilles, there is a particular method of installation for each of the two different types. To judge from the evidence of dilapidated specimens, decorated grilles of the bosses-and-bars type are composed of an internal structure consisting of wooden or iron bars, which supplies the strength of the grille. Onto this skeleton the small bars and bosses that provide the aesthetically pleasing exterior are superimposed. Damaged grilles (see Fig. 15, Section 1.4.1) in the façade of the mosque of Amir Shaykhū al-ʿUmarī (750/1349) show that this internal structure was often provided only in one direction, either horizontally or vertically.<sup>41</sup> It is in the chosen direction that optimum strength is provided when the grille is installed. In others the bars and bosses simultaneously serve as the providers of strength and as the canvas for decoration. The installation of the grilles in their final context is achieved through the drilling of holes made in the surrounding jambs, allowing the bars to sink into the

<sup>40</sup> According to Golombek & Wilbur (1988) I, 135, a similar kind of aesthetic can be observed in wooden elements in Timurid architecture, where the woodwork fittings are perceived as being adjuncts to the structures, without there being a clear structural affinity between the two.

<sup>41</sup> In the mosque of Amir Shaykhū al-ʿUmarī (750/1349), the internal structure of the broken window grille is visible owing to some bosses having lost their outer surface. The internal bars, round in section, were applied on a horizontal axis only.

enclosing wooden or stone window frames. These are hidden from sight as the extremities of the bars are covered with half-conical trims.

An internal structure is absent in the case of the grilles belonging to the overall geometric type. They are often cast in multiple pieces consisting of several attached horizontal rows, after which they are fitted and welded together. They are fixed in their final position by means of an incised groove along the entire length of the wooden jambs if the grille is equipped with a metal rectangular frame surrounding it on all sides, as is visible (cat. no. 10/2: Plate 30) in the *madrasa* of Ṭaybars al-Wazīrī (709/1309–10). The incision is made deep enough to allow for the sliding of the grille into position. When such an enclosing rectangular frame is absent, the grille contains protrusions at fixed distances. To allow installation, holes corresponding to the height of the protrusions are drilled into the wooden or stone jambs, allowing them to fit into the frame – as shown in the central grille (cat. no. 28/4: Plate 110) of the *madrasa* and mausoleum of Maḥmūd al-Ustādār (797/1394–95).

The installation of metalwork fittings seems to have taken place in the last construction phase of a building, although the exact timing varies. This is exemplified in most detail in the *madrasa* of Amir Azbak al-Yūsufī (900/1494–95), where the entrance door (cat. no. 50/1) bears the latest date among the five different dated inscriptions that are found in the various parts of the building.<sup>42</sup> The given month and year on the door, i.e. *Ramaḍān* 900, corresponds with the actual date at which the building was ceremonially opened. In the case of the *madrasa* of Sultan al-Nāṣir Ḥasan, the date found on the doorknocker (cat. no. 24/9), i.e. the end of the year 761/the end of 1360, lies well after the *waqf* – dated 15 *Rabīʿ* II 760/March 1359 – had been recorded; and indeed the building had been put into use from *Jumādā* II 761/May 1360 onwards.<sup>43</sup> The installation of its entrance door (cat. no. 24/1), dated 764/1362–63, was even postponed for three years, when it was part of a campaign to complete the *madrasa*'s hitherto unfinished decoration. The inscription elucidates that the door, or at least the inscription itself, was made after the death of its patron, for it includes a reference to him as the martyr (*al-shahīd*). Perhaps temporary doors had been in use before. The entrance door (cat. no. 53/1) in the *madrasa* of Sultan al-Ghūrī was also installed only a full year after the interior decoration had been finished and the building itself had been inaugurated.<sup>44</sup> An explanation for this late date might be that this door was completed only when the newly built mausoleum and *sabīl-kuttāb* of the same patron across the street was nearing its completion, so that two identical doors were made for both buildings in one go.<sup>45</sup> This duplication establishes a clear optical link between the two constructions, which are separated from one another by a thoroughfare.<sup>46</sup>

This late installation of entrance doors in general does not really come as a surprise as the measurements of doors had to be minutely adjusted to the size of the openings intended for this specific purpose. It is very probable that the same practice applied in the case of window grilles. As only few grilles carry a dated

<sup>42</sup> The walls of the *sahn* were dated: *Ṣafar* 900/10 November to 8 December 1494; the façade: *Jumādā* II 900/8 March to 5 April 1495; the door-ways to the *sahn*: *Rajab* I 900/6 April to 5 May 1495; the main entrance: *Shāʿbān* 900/6 May to 3 June 1495; and finally the entrance door: beginning of *Ramaḍān* 900/4 June to 3 July 1495. For a record of these inscriptions, see Van Berchem (1903), 528–31.

<sup>43</sup> For the *waqf*, see Harithy (1992), 239–56.

<sup>44</sup> Its interior decoration was finished in *Rabīʿ* I 909/24 August to 22 September 1503, the date recorded by Ibn Iyās (1960–92) IV, 58, and by Van Berchem (1903), 574, who located this date on a marble band above the *minbar* and the *mihrāb* while, according to Ibn Iyās (1960–92) IV, 59, the building's inauguration took place in *Rabīʿ* II 909/ 23 September to 21 October 1503. The entrance door is dated *Rabīʿ* I 910/22 August to 20 September 1504, almost a full year after the complex was officially taken into use.

<sup>45</sup> According to an inscription on the façade of the *sabīl-kuttāb*, recorded by Van Berchem (1903), 577–78, it was finished in *Dhū al-ḥijja* 909/May–June 1504. Ibn Iyās (1960–92) IV, 68, recorded that the mausoleum proper was finished in *Jumādā* I 910/10 October to 8 November 1504.

<sup>46</sup> The duplication of architectural elements – as visible for example in the two minarets on Bāb al-Zuwayla as part of the mosque of al-Muʾayyad Shaykh – was an approved device to differentiate a building from other adjacent Mamluk structures and to leave a unique mark. For more examples of duplication in Mamluk buildings, see Asfour (2000), 247–48. In contrast to my finding, the same author, p. 248, comments that in the buildings ordered by Sultan al-Ghūrī, the idea of duplicating elements was abandoned altogether.



inscription, only one surviving example can support this supposition of late emplacement. The window grilles (cat. nos. 49/1 and 49/2) from the mausoleum in al-Anṣārī, near Aleppo are dated *Rabīʿ*I 893/17 February to 14 March 1488, which comes down to only a month of difference between their manufacture and the completion of the building activities in *Rabīʿ*II 893/15 March to 12 April 1488.<sup>47</sup>

Not all Mamluk fittings that were installed in religious buildings were originally intended for the building they are found in today. Both Mamluk metalwork doors and grilles are known to have been re-used in different contexts in Mamluk times, as the surviving objects themselves plus references in the literary sources make clear. Among Mamluk metalwork doors, two specimens provide evidence of their re-use. These are a door (cat. no. 7/1) made for Amir Sunqur al-Ṭawīl (before 699/1299–1300) which came to adorn the mosque of Sultan al-Ashraf Barsbāy (841–42/1437) in al-Khānqāh;<sup>48</sup> and the entrance door (cat. no. 24/1) to the *madrasa* of Sultan al-Nāṣir Ḥasan (764/1363), now installed in the mosque of Sultan al-Muʾayyad Shaykh (818–24/1415–21), both of which still carry the original inscriptions that include the names of their original patrons.<sup>49</sup> Especially in the case of the mosque of Sultan al-Muʾayyad Shaykh, the transfer of the entrance door of the *madrasa* of Sultan al-Nāṣir Ḥasan seems to have been a premeditated move, as the measurements of both door and portal closely match.<sup>50</sup>

Besides the material evidence, the latter door was also the topic of discussion by several chroniclers who remarked upon its appropriation on the order of Sultan al-Muʾayyad Shaykh, a focus on a single door which is unprecedented in the Mamluk sources. This could be explained partly by the door's grandeur and huge scale, which gave it a unique position in the history of Mamluk fittings. More importantly, however, the real issue of the critics seems to have been the behaviour of the sultan in relation to this door, which was deemed inappropriate. Although the comments made by al-Maqrīzī were neutral, mainly referring to the basic facts of the transfer of both the entrance door and a large lamp for the payment of 500 *dīnārs*, Ibn Iyās commented that he “gave the cheapest of prices”.<sup>51</sup> Ibn Taghrībirdī was even more outspoken, for he criticised the transfer as a mistake, adding “it showed a lack of a sense of honour and a want of good manners” (*naqṣ marūʾa wa qillat adab*); according to him the sultan was in a position to manufacture better alternatives.<sup>52</sup> Ibn Taghrībirdī, however, gave the sultan the benefit of the doubt when he concluded that one of the sultan's mamluks had assured him that it was the sultan's intention to return both the door and the lamp to their original position once replacements had been produced.<sup>53</sup> In this light the undisturbed presence of the name of the original patron both on the front and on the door's reverse would support this alleged intention. But the retention of the original text, might also, however, have acted as a deliberate reminder of

<sup>47</sup> Sakhāwī (1934–37) II, 275.

<sup>48</sup> The re-use of another, but presumably pre-Mamluk door with engraved bands in the *madrasa* of Qādī ʿAbd al-Bāsiṭ (822–23/1419–20) is recorded in the reports of the Comité (1922) XXXII, 1915–19, 130–31, pl. 149. The decoration engraved on these bands consists of inscriptions divided by medallions on the one hand and animals passant, polo players, falconers, archers, and arms bearers on the other hand. This shows that the door of Amir Sunqur al-Ṭawīl was not exclusive in its use of figural imagery. Unfortunately, information is lacking about the precise distribution of these bands on the doors, as is information on the exact location, and thus visibility, of the door.

<sup>49</sup> Another transferred Mamluk door is the one (cat. no. 5/1) that formerly belonged to the *madrasa* or the house of Amir Mankūtāmūr (698/1296) originally located just inside the city walls near Bāb al-Futūḥ. The door now serves at the entrance portal of the Ottoman mosque of al-Mazharīya located just outside Bāb al-Futūḥ. It is not known whether the door was directly taken from either one of the two structures in the 19<sup>th</sup> century or whether it had been installed in another building in the interim.

<sup>50</sup> The portal and the re-used door were not always a match, which is exemplified by the mosque of al-Mazharīya. There, the inclusion of the door (cat. no. 5/1) ordered by Amir Mankūtāmūr should be understood as an afterthought, as its upper part which carries an inscription band is made invisible when the door is closed since the door is much higher than the portal itself.

<sup>51</sup> Maqrīzī (1853) II, 329; Ibn Iyās (1960–92) II, 20.

<sup>52</sup> Ibn Taghrībirdī (1929–72) XIV, 43–44.

<sup>53</sup> Idem.

the door's transfer as a type of trophy and a reminder of a glorious past, and perhaps might even be understood as an indifference towards the context of inscriptions.

This appropriation of metal fittings does not stand on its own but was part of a wider practice of taking over building materials from Pharaonic, Roman, Coptic, and Islamic buildings by this and other Mamluk rulers.<sup>54</sup> The reasons for it are quite straightforward: the availability of marble columns and granite blocks used for lintels in the immediate surroundings of a new building project was advantageous to the builders, since it meant that they did not need to go through the quarrying and cutting themselves. Moreover, the scarcity of some materials, such as good quality wood but also precious and to a certain extent base metals, the latter especially in times of war, made it good economic sense to re-use them.<sup>55</sup> The cost of executing a new metalwork door, which consisted of the acquiring of the raw materials, on the one hand, and the expenses of labour, on the other hand, must have encouraged some of them to look around for ready-made objects that could be removed for re-use elsewhere. In the case of Sultan al-Mu'ayyad Shaykh, there is general consent among the Mamluk historians about his inappropriate conduct in more general terms as the chroniclers dilate about the looting of different materials for the mosque's benefit, assembled as a result of the sultan's order for the illegal dismantling of marble from houses, mosques, and quarters, and the taking of the columns of the *mihrāb* of the mosque of Qawṣūn.<sup>56</sup>

In conclusion, there is a pre-Mamluk incident, related by Ibn Jubayr in 579/1183, of the re-use of a door for different reasons than economics, sheer practicality, or a deliberate desire to display the magnificence of a past dynasty.<sup>57</sup> Here, the door's connection to the most venerable place in Islam stimulated its re-use. Ibn Jubayr narrates that when the Ka'ba was being refurbished, the amir responsible for it, Amir Mukthir, took the old door and ordered it to be made into a coffin in which to bury him. His wish was to be placed in the coffin on his deathbed and to be sent on the pilgrimage. The importance of the door positioned in the Ka'ba was further commented on by different writers, all of whom recounted specific rites with regard to the door and its threshold, among which were prayers for rain and prayers for mercy.<sup>58</sup> In the case of the latter there was the custom of people standing facing the closed door with downcast eyes and hands outstretched to God. When it was opened the people shouted "Allāhu Akbar" (the *takbīr*) and cried "Oh God, open onto us the gates of Your mercy and of Your forgiveness, oh most Merciful of the merciful." There was also a rite in times of famine as recorded by Ibn Baṭṭūṭa, who recalls that when the people of Mecca were affected by famine, they placed a copy of the Qur'ān on the threshold of the door, while the people assembled with uncovered heads, praying and seeking divine favour.<sup>59</sup> Such rites were closely related to this specific door and do not seem to have been performed in relation to any of the Mamluk metalwork doors under consideration.

The re-use of window grilles within Mamluk buildings seems to have been motivated by a mixture of practical and symbolic reasons. An example of the former is the installation of a grille (cat. no. 12/1) made by the metalworker Muḥammad b. al-Zayn in the Is'ardīya *madrasa* (760/1359) in Jerusalem. This

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<sup>54</sup> For an overview of Pharaonic pieces reused in Islamic buildings, see Jakeman (1993) II, 89–185.

<sup>55</sup> In this respect, the integration of wooden beams originating from the Fatimid palaces in the complex of Sultan al-Manṣūr Qalā'ūn (683–84/1284–85) is not surprising, even more so when the close proximity of the two buildings is taken into account. For these wooden beams with figural representations, see Pauty (1931), 44–45, 49–52, pls. 46–58.

<sup>56</sup> Maqrīzī (1853) II, 329; Maqrīzī (1971) IV/I, 364; Ibn Taghrībirdī (1929–72) XIV, p. 43; Ibn Iyās (1960–92) II, 20. For the taking of the columns, see Ibn Iyās (1960–92) II, 20.

<sup>57</sup> Ibn Jubayr (1852), 125.

<sup>58</sup> For example the prayer for rain was recorded by Ibn Jubayr (1852), 160–61, and the prayer for mercy by Ibn Baṭṭūṭa (1853–58) I, 309–10.

<sup>59</sup> Ibn Baṭṭūṭa (1853–58) I, 320.

time it is not the presence of the former patron's titles that reveals its relocation but the specific setting of the grille and its size in combination with the name of the artist.<sup>60</sup> Both the setting – in front of the entrance to the tomb instead of in between the columns, which actually indicate the entrance to the tomb – and the lengthening of one side with a wooden frame to fill up the space, are indicators that the grille was not purpose-made for this building. Moreover, Muḥammad b. al-Zayn has been the focus of animated discussions among academics as to the length of his working life, with dates offered from the reign of Sultan al-Ẓāhir Baybars (658–76/1260–77), which would exclude his involvement in the making of this particular door for this particular *madrasa*, to the middle of the 14<sup>th</sup> century.<sup>61</sup>

Besides being relocated because of practical considerations, grilles have also been re-used because of their affiliation to other cultures or dynasties. The installation of a double Crusader grille in the entrance portal of the complex of Sultan al-Manṣūr Qalā'ūn (683–84/1284–85) should be understood as a deliberate act and a visual statement to make a trophy of war visible to the public.<sup>62</sup> The second grille is recorded to have been relocated a number of times, owing to its symbolic connection to the dynasty of the Abbasids and its link to the royal palace in the Abbasid capital Baghdad. It finally acquired a position in the *khānqāh* of Baybars al-Jāshankīr where al-Maqrīzī observed it and recorded its history:

“This mausoleum has windows overlooking the street [...] one of them is a large window that was originally located in the royal palace of the Abbasid caliph, then moved by Amir Abū'l-Ḥārith al-Basāsīrī from Baghdad after the caliph was defeated [...] the window was placed in the [Fatimid] ministerial palace and it remained there until Amir Baybars built the celebrated *khānqāh* and he made this window in the shrine of his *khānqāh*. This window is of momentous value, and it almost reflects the splendour of the caliph.”<sup>63</sup>

The removal and re-use of objects was neither necessarily a local affair (as the latter two examples of grilles already made clear), nor was it restricted to single objects only. Ibn Ṣaṣrā relates the removal of numerous types of metalwork objects from Damascus on the order of the viceroy of Damascus, Baydamur, in 775/1374 to meet the wishes of Sultan al-Ashraf Sha'bān who intended raising several constructions in Cairo. His detailed account goes as follows.

“In Damascus, meanwhile, Baydamur [viceroy of Damascus] had neglected the welfare of the people and was busy taking their possessions. Sultan al-Malik al-Ashraf demanded of him whatever was needed for his building activity [i.e. the sultan's *madrasa*] in Cairo; such

<sup>60</sup> For more details, see Allan (1996), 202–3.

<sup>61</sup> The controversy to date revolves around the making of the famous inlaid Baptistère de Saint Louis, now in the Louvre, inv. no. L.P. 16: Behrens-Abouseif (1988–89), 7, dates the bowl to the time of Sultan al-Ẓāhir Baybars (658–76/1260–77); Rice (1950), 379, suggests a date not later than the first quarter of the 14th century; whereas Ward (1999), argues for the middle of the 14th century as its time frame.

<sup>62</sup> Another example of the re-use of Crusader elements in Mamluk architecture is the stone portal in the *madrasa* of Sultan al-Nāṣir Muḥammad (698–703/1299–1304), published in Creswell (1952–59) II, 235, pl. 85b. This originated from the cathedral of Acre. Although falling outside the scope of the Mamluk realm, but of importance as it concerns a Christian metalwork door set within an Islamic context, is the re-use of a door looted in all probability from Bursa and reinstalled in a tent pavilion of Timūr at Samarqand, and described by the ambassador Clavijo (1859), 160 who gave a description of it in 1404: “These doors were so high that a man might go through them on horseback, and they were covered with silver gilt, consisting of many square plates. They were ornamented very skilfully, and in a variety of patterns, amongst which were blue and gold knots, and the workmanship was so cunning and excellent that it could not be equalled, either in that country or in Christendom. On one door was the figure of St. Peter, and on the other that of St. Paul, with books in their hands, which were covered with silver; and they say that Timour Beg found these gates at Bursa, when he pillaged the treasury of the Turk.”

<sup>63</sup> Maqrīzī (1853–54) II, 416.

as window grilles (*shabābīk*), doors (*abwāb*), sheets (*ṣafā'ih*), metal rings (*ḥalaq*), and other things which were needed for building. [...] The craftsmen worked in the viceregal palace for a period until the work was completed and then they exhibited it to Baydamur. One who supervised them in the viceregal palace told me that they assembled the work and exhibited to Baydamur whatever was of gold and silver, nothing else, [objects] such as sheets (*ṣafā'ih*), rings (*ḥalaq*), nails (*masāmīr*), corner-pieces (*zawāyā*),<sup>64</sup> rings (*aṭwāq*), door latches (*sawāqīṭ*), hinges (*rizaz*), locks (*ghilāqāt*), and crescents for the top of domes (*hilālāt bi-rasm ru'ūs al-qibāb*). They assembled all of this and weighed it. It was in excess of twelve *qinṭārs* [circa 2220 kg] of gold and silver, nothing else. This is aside from the inlaid copper and whatever was on wood. He sent it all to Cairo on the backs of a hundred and sixty camels.”<sup>65</sup>

In the 19<sup>th</sup> and 20<sup>th</sup> centuries the integration of some Mamluk doors and doorknockers in new environments continued, driven not by economics or practical motives but by appreciation and perhaps even by a wish for conservation. The two Mamluk metalwork doors of the overall star pattern type that came to be installed in the entrance (cat. no. 1/1) and in the courtyard (cat. no. 58) of the French Embassy in Gīzah must be understood in this light. Their style closely fits that of the interior design of the entire building where a taste for authentic Mamluk and Ottoman objects is mixed with patterns based upon those of the former dynasties.

#### 4.4 INTERPLAY BETWEEN FITTINGS AND ARCHITECTURE AND ITS IMPLICATIONS

Since doors, window grilles, and window shutters functioned as components of a building, it is important to establish if and to what extent they were visually connected to their immediate surroundings. Firstly, this theme will be discussed separately for metalwork doors in Cairo, Damascus, Aleppo and Jerusalem, since the remaining evidence in these cities reveals distinct patterns. As for grilles and window shutters, it seems better to consider their use in Cairo, Damascus, Jerusalem and Tripoli not separately but together. The picture that emerges for these fittings is uniform. Secondly, attention will be focused on how visible a fitting was once in place.

There is a clear difference between buildings in Cairo, Jerusalem and Damascus in the relationship between Mamluk metal doors and their immediate context. This is not surprising given that, in the latter case, the doors that are still extant *in situ* are not set within a Mamluk building but instead in the free-standing Umayyad mosque, where the aesthetic of the immediate surroundings was dictated by the Umayyads, not by the Mamluks.<sup>66</sup> There, the Mamluk doors serve as replacements for older ones. In the walls of this mosque the doors not only stand out because of their colour, originally a bright gold which has now taken on a grey-green patina, but principally because they are the main and, in the three walls that today still house the metalwork doors, one of the few carriers of ornament (see Fig. 18). There is no visual competition from the surroundings of the doors. The image transferred by both the plain exterior walls composed of large blocks of beige stone and the greyish-coloured metalwork doors installed in them is that

<sup>64</sup> The term used (*zawāyā*) literally means ‘angles’.

<sup>65</sup> Ibn Ṣaṣrā (1963) I, 249–50 and II, 187–88. The following words of Brinner’s translation have been altered: window grilles is used for lattices (*shabābīk*), sheets for both door-planks and door-carvings (*ṣafā'ih*), inlaid for [gold-] plaited (*mukaffāt*), and rings for cornices (*aṭwāq*). For a different version of the event, see Ibn Ṭūlūn (1964), 27; Laoust (1952), 14.

<sup>66</sup> These are cat. nos. 29/1, 29/2, 31/1–31/4, and 57/1.

of strength, might, and impenetrability. The latter impression is enhanced even more by the fact that from afar the doors seem to have been made of solid metal, while in reality only a thin metal coating covers the wooden support.



Fig. 18. Damascus, Umayyad mosque, façade, west wall.

The pre-Mamluk aesthetic of a plain façade which is energised during the 15<sup>th</sup> century by the addition of decorated doors differs totally from the exuberantly decorated entrance portals in the façades of religious buildings in Mamluk Cairo in which metalwork doors were positioned.<sup>67</sup> Before a description is given of the various decorative motives on entrance portals in Cairo, one feature especially, i.e. their loftiness, deserves more attention. These portals are characterised by tall recessed niches that often run the entire height – or at least the largest part – of the façade (see Fig. 19). Their slenderness, which is even more emphasized as they taper towards the top, accentuates the portal's height even further. The desire to emphasize elevation for dramatic impact is intimately linked with the lack of available space in those areas most preferred by the Mamluk elite, i.e. Bayn al-Qaṣrayn, for their sponsored buildings.<sup>68</sup> This choice is not, however, solely connected to the existing infrastructure of the capital city but should be accounted for as well by a wish to express imperial might, thereby reflecting on the prestige of the patron through monumentality.<sup>69</sup> By ordering religious and charitable foundations, the Mamluk elite stressed its link with the population; by choosing to do so with monumental and lofty buildings, simultaneously their domination

<sup>67</sup> For a description of the development of monumental entrances of religious buildings built within the Bahṛī period, see Roe (1979). For the development of such portals in the Circassian period, see Abdel Razik (1990).

<sup>68</sup> Newly built constructions on the street that ran from Bāb al-Futūḥ to Bāb al-Zuwayla were mostly instigated by the sultans, while lack of space forced the amirs to order buildings along the side streets of this main thoroughfare. See Alden Williams (1984), 38-40.

<sup>69</sup> O'Kane (1996), 510-14.

of the population was visualised.<sup>70</sup> That monumentality, as well as finances, was actually one of the key issues related to architecture in the opinion of Mamluk chroniclers shows the contemporary awareness of this feature and its impact.<sup>71</sup>

Besides the inherent monumentality of its imposing height and somewhat slender proportions, the high recessed entrance niche has a number of recurring decorative features that further highlight the presence of these portals (see Fig. 20). A hood, whether arched, rectangular or tri-lobed in shape, often limits the top end



Fig. 19. Cairo, *madrasa* of Sultan al-Ashraf Barsbāy, 826–27/1423–24, façade: entrance portal.

on the exterior while a fluted or flat semi-dome is positioned in the upper level inside the recessed space. Often the latter is enlivened with *muqarnas*. Further down, the central area is dominated by a bi-chrome palette of *ablaq*, either in red and white or black and white, which alternates with clearly framed decorative panels with geometric or floral motifs either carved in stone or composed of marble intarsia. The latter decoration consists of squares, rectangles or roundels, all filled with different patterns. This central field is interrupted by single or paired round or rectangular windows, which are sometimes flanked by engaged colonettes. This entire central field is finished below with a lintel that is either kept plain or consists of a joggled pattern of fleur de lis motifs or trefoils. Below this entire elongated area of ornament, the entrance door is set, often flanked on both sides by an inscription frieze containing the foundation inscription cut in stone. To either side of the entrance door, a stone *mastaba* is placed on the platform that gives access to the building. As this platform can often only be reached by a flight of steps, the height of the slender niche is further accentuated.

On the whole, entrance portals in Mamluk buildings in Cairo can be defined by four main qualities: emphasis on verticality, symmetry, compartmentalization, and playfulness owing to the use of colour, *muqarnas*, and geometric and floral decorative motifs. All four characteristics also recur in Mamluk metal doors of the overall star pattern type and of the medallion type. In these the metalworker is also intent on the

<sup>70</sup> Humphreys (1972), 119. In this context, it should be remembered that palatial structures in Cairo exhibit an identical predilection for lofty recessed entrance portals that made use of identical decorative motifs as those of religious buildings. An example of this is the palace of Amir Yashbāk (d. 1482) near the citadel of Cairo, who had incorporated into his dwelling the former residence of Amir Qawṣūn. See Revault & Maury (1975–83) II, 31–48, pls. 23–26.

<sup>71</sup> Rabbat (2002), 160–61.

formation of a strong vertical axis, which expresses itself in the creation of a vertically elongated central field. In the case of the star pattern type, the door is visually enlarged even further through the repetition of



Fig. 20. Cairo, *madrasa* and mausoleum of Sultan Qāitbāy, 874–79/1470–74, façade: entrance portal.

the multiple star patterns, which force the eye to move up and down. In the medallion type, the sense of verticality is enhanced by the addition of trefoil finials attached to the top and bottom of the central medallion. As is the case on the portals themselves, the field of these two types of metalwork doors is subdivided into smaller compartments along symmetrical lines. And the element of playfulness is also there

in metalwork doors: the use of alternating flat and embossed plaques creates a play with light and shadow and a three-dimensionality that is also embodied in the portal itself, for example in the use of stalactites. And finally, the addition of a golden-coloured entrance door into the already multi-coloured façade adds to the attention already focused on it.<sup>72</sup> These qualities shared by both serve one goal: they act as an acclamation mark focusing attention on that part of the building that offers access and therewith directing visitors towards it.

Can we conclude from this overlap in basic components that entrance portals and entrance doors were closely related to one another and that they were even designed as one? Although both doors and portals share a comparable visual intention, the eventual execution and details of the decoration are not closely connected. None of the star patterns on metalwork doors are identical to the ones that fill the compartments of their surrounding portal.<sup>73</sup> The same goes for the floral designs that fill the central medallion of medallion doors or those patterns covering the surface of the small plaques of the overall star pattern doors: they never recur precisely in the portal frame. And the styles of script used on the portal, *thulth* in the friezes and geometrized kufic in some of the square frames, was different from that on the entrance door, which was usually *naskh*. From all this it can be concluded that the instructions for assignments to create a door for a particular building were generic. The designs of both entrance portals and entrance doors remained standardized in their own right throughout the Mamluk period, acting independently from one another. Such generic links as portals and doors possess can be accounted for by their obedience to ‘Mamluk style’. Their uniformity might be explained by their role in these public buildings in directing the religious community inside, the house style clearly evoking the idea of entrance to the passers-by.

Far less energy was put into creating the immediate context for metalwork doors located in the interior of Mamluk religious buildings in Cairo. This should not come as a surprise, for decorators focused most of their attention on the *qibla* wall, the primal focus of which was on the *mihrāb* and where doors played on the whole no part.<sup>74</sup> Moreover, interior doors are not unique but are used in multiples in accordance with the arrangement of the building. As their function is not at all exclusive, much less emphasis is placed on them than in the case of entrance doors, of which there is normally only one per building. However, the designers on more than one occasion did try to establish reciprocal effects between the doors and the framework surrounding them by juxtaposing identical decorative motifs in other materials close by. The latter intent is exemplified by metalwork doors enclosed by wooden frames with floral designs carved in such a way as to suggest openwork patterns, which matches up both in effect and type of decoration with the border bands on the star pattern doors.<sup>75</sup> Another example of establishing reciprocity of designs was the installation of carved wooden window shutters with medallion designs above the metalwork medallion doors in the *sahn* of the *madrasa* and *khānqāh* of Sultan Barqūq (786–88/1384–86) (see Fig. 21). Within the same context, the use of trefoils decorating the lintel situated above the medallion doors establishes a reciprocal effect with the trefoil finials of the medallion on the metalwork doors (Plate 92). In addition, the matching of colours was another way in which visual connections were made between the

<sup>72</sup> Today the surface of most metalwork doors has taken on a mat green colour owing to chemical reactions caused by human touches, the influence of sun, rain, and pollution, and the accumulation of dirt. Their joint effect obliterates the original yellow gold colour over time.

<sup>73</sup> The overwhelming presence of star patterns, both on the entrance door (cat. no. 3/1) and cut in the lintel above it in the complex of Sultan al-Manṣūr Qalāʾūn (Plate 9) does suggest, however, a deliberate choice for reciprocity of design was intended here.

<sup>74</sup> The exception is the metal door (cat. no. 24/6) in the *qibla* wall in the *madrasa* of Sultan al-Nāṣir Ḥasan.

<sup>75</sup> As was the case for example on the two identical metal doors (cat. nos. 24/3 and 24/4) in the side walls of the *qibla ṭwān* in the *madrasa* of Sultan al-Nāṣir Ḥasan.



doors and their immediate surroundings. The effect of gold-coloured metal bands with inscriptions on metalwork doors in the interior

was matched by a broad inscription executed in wood and painted gold, positioned above the door (Plate 233). The designers even used identical framing bands, consisting of trefoil finials, to act as the border for the inscriptions in both wood and metal (Plate 233).<sup>76</sup>

Although gold paint was commonly used in Mamluk mosques, it is important to discuss briefly here the legality of using gold and silver metals within the precincts of a religious building. As has been discussed before, both these precious metals are used in inlaid doors, doorknockers, and window grilles, at the entrances of buildings as in their interiors. In addition, inlaid Qur'ān-boxes, rosewater sprinklers, and candlesticks belonged to the inventory of many a mosque and would have been displayed and used on different occasions. The presence of both portable and fixed artefacts inlaid with precious metals makes clear that in practice there was no disapproval of their use in a religious environment. This is also underlined by Mamluk travellers describing religious buildings, who usually speak of them with awe and admiration instead of disapproval on the grounds that they are



Fig. 21. Cairo, *madrasa* and *khānqāh* of Sultan Barqūq, 786–88/1384–86, window shutter in *sahn*: medallion carved in wood.

too lavish. This is exemplified by Ibn Baṭṭūṭa who was inspired by the gold decoration on the Dome of the Rock to the following laudation: “The greater part of this decoration is surfaced with gold, so it glows like a mass of light and flashes with the gleam of lightning; the eyes of him who would gaze on its splendours are dazzled and the tongue of the beholder finds no words to represent them.”<sup>77</sup> Sometimes, however, their use was objected to, as recorded by Ibn Ṣaṣrā, who recounted the removal of 600 golden chains from the Umayyad mosque in Damascus and their replacement with copper ones as the gold allegedly distracted the worshippers from prayer.<sup>78</sup>

The visual effect of the entrance portal framing the metalwork doors in the façade of religious buildings in Jerusalem and Aleppo differs considerably from the picture seen in Cairo. In these two regional centres the entrance portal makes a far less dramatic impact, simply because it is scaled down considerably when compared to those in the capital city (see Fig. 22). The entrance portals are in tune with the rest of the façade, so that their reduced size applies to the entire construction. Besides this moderate scale, a far more modest approach towards the decoration of the entrance portal is also to be observed here. Fluted semi-domes, *muqarnas* corbelling, the use of *ablaq*, and stone or marble panels filled with geometric motifs are

<sup>76</sup> Such wooden gold-painted inscriptions above doors with metal bands, are, for example found in the *sahn* of the *madrasa* of Sultan al-Ghūrī and in the *sahn* of the mosque of Amir Qajmās al-Ishāqī. In the latter the effect is greatly diminished, as the metal has turned a dull grey-green.

<sup>77</sup> Ibn Baṭṭūṭa (1853–58) I, 122–23. In early Islamic works on *fiqh*, jurisprudence, the use of gold or silver for the coating of ceilings was only allowed if it was thought to be not durable. It had to be removed, though, if it was perceived to be durable. See Juynboll (1985), 113.

<sup>78</sup> Ibn Ṣaṣrā (1963) I, 161 and II, 121. As his account is based on hearsay and the specific paragraph mostly refers to the time of the mosque's construction, this removal took, in all probability, place in Umayyad times.

present, but they are less varied and more simply executed. In a way, the metalwork doors fit into this toned-down environment rather comfortably, for they, too, display a simplicity of design and decoration. No further correspondence in design and decoration between the doors and their framing entrance portals is apparent.

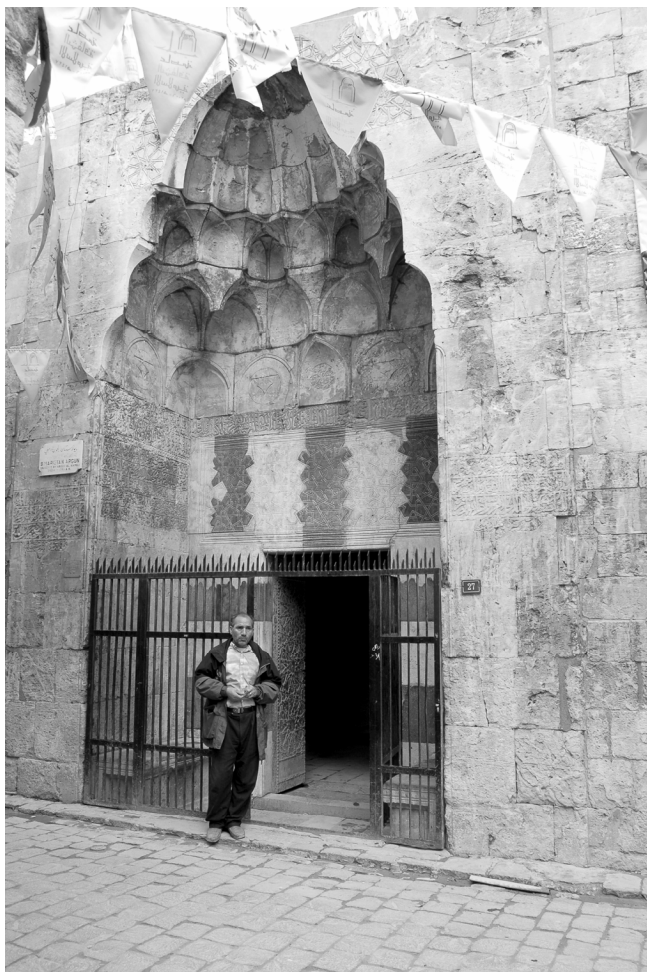


Fig. 22. Aleppo, *bīmāristān* of Arghūn al-Kāmilī, 755/1354–55, façade: entrance portal.

location at the corner of which enhanced its visibility.<sup>79</sup> A further emphasis on grilles and shutters was accomplished by the use of decorated lintels that were usually set above the grilles situated on ground floor level (Plates 96, 98). Their material and decoration varies from simple *ablaq* framings, and carved stone with geometric motifs, to marble lintels with a bi-chrome palette decorated with joggled motifs, trefoils, or fleur-de-lis. As these lintels are often the only decorative feature in the façade besides grilles, they quickly draw attention to themselves. Again, the designs and decorative motifs on these lintels show no correspondence – except for a generic one – to those of the grilles and shutters. Surely then these elements were designed separately from one another.

What are the implications for this visual impact of a metalwork object that has been installed into and that functions within a fixed context? Firstly, as they are first and foremost practical objects meant to provide entrance or light or ventilation to a religious building, they probably received a lot less attention in

Now that doors and their immediate context have been discussed, the same question will be addressed for window grilles and window shutters in Cairo, Damascus, Jerusalem, and Tripoli. Most of the extant metalwork grilles and shutters are found in the façades of Mamluk buildings, their multiple numbers distributed evenly in a neat row on the ground floor level. In addition to this, more such rows might be dispersed in the upper levels of the façade. Irrespective of the number of levels, the common installation of rectangular grilles and shutters in a vertical mode reinforces the verticality of the façade. Their repetition and regular distribution gives a rhythmic quality to the exterior of Mamluk buildings.

The presence of window grilles in the façades of Mamluk buildings is not only visually enhanced by their presence in multiple numbers but also because they are regularly set either in projecting or recessed parts of these edifices, or at their corners. They feature in *sabīl-kuttābs*, the charitable component of a religious complex providing water and learning, the projection or

<sup>79</sup> For a discussion of the differentiation of religious buildings in the Mamluk era, among others by using staggering for certain parts of a building, see Asfour (2000), 248–50.

daily life from the visitor or the passer-by than from modern art historians. It might be that the viewer is attracted by the appearance of these objects or is struck by their overwhelming richness, but on the whole they remain only a component of a greater structure. Their intrinsically subservient quality once they have been installed contrasts with their treatment during the manufacturing process when the metalworker executed them with minute attention. Whether the door was set in a building's exterior or interior, it had to compete with other media and designs for the attention of the viewer. In the façade the visual impact of a door was, as has been discussed above, accentuated by the simple facts that it was unique and that the entrance portal surrounding it was placed at its service to attract as much attention as possible to this part of the façade. The visibility of the metalwork grilles crowned with ornate lintels was also much enhanced as these, too, were the sole decoration on many a façade. In the interior the overwhelming presence of decorative patterns executed in a vast array of materials does indeed diminish the attention paid to metalwork fittings, not least as there the door, the most frugal metalwork bands type, was most often used, especially in late Burjī Mamluk buildings.<sup>80</sup>

A second implication of the installation of metalwork fittings is that the metalworker had to achieve a result that was rewarding both from afar and from nearby. On the whole, metalworkers created designs that could impress either way: the compartmentalisation of the design in strong and easily readable lines facilitated grasping the pattern from afar, while from close range the viewer could admire the often intricately worked surfaces.<sup>81</sup> The impact of the pattern at large was realised by creating contrasting areas and a play with strong geometric lines. Close-focus impact was ensured using a variety of techniques such as engraving and inlaying which minutely treated the surface of a fitting. There is however, one extant door where the overall design was made subordinate to both the inlaying technique and the intricacy of its execution, i.e. the inlaid door (cat. no. 24/6) in the *qibla* wall in the *madrasa* of Sultan al-Nāṣir Ḥasan.<sup>82</sup> Although the metalworker used relief as an obvious way of raising the centre of its individual plaques, thus accentuating their relation to the surrounding area, this effect was minimized as only minor differences in relief were employed. Moreover, the absence of a single pivot can be sensed, in that the metalworker chose to inlay all the plaques with shiny silver, gold, and copper, so that each of them shimmers in its own right. This lack of a focus which could easily have been established by alternating between shiny inlaid and more plainly engraved areas greatly hampered the readability of the design, as the viewer's eyes are not allowed to rest. That the intricate detailed execution of the gold and silver ornament on the door's surface could only be admired at close range is anomalous vis-à-vis the door's monumental size, for its design should also have produced an overpowering effect from afar. This was a lost opportunity. The technically related doorknockers that are attached to this door, too, show this anomaly: the decorative detail suggests they were created as mobile, autonomous objects that could be admired at close range. But their final location at an unattainable height totally denies this possibility.

<sup>80</sup> Such as was the case in the *madrasa* and mausoleum of Sultan Qāitbāy (877–79/1472–74), the mosque of Amīr Qajmās al-Iṣḥāqī (884–86/1479–81), in the mosque of Amīr Azbak al-Yūsufī (900/1494–95), and in the *madrasa* of Sultan al-Ghūrī (908–9/1503).

<sup>81</sup> In the case of overall star pattern doors the metalworker elucidated the design for viewing from afar by composing the design of star units so that they take on the shape of medallions from a distance (Plate 79). These are distributed along clear horizontal or vertical rows or along the lines of an X-shape. The designs are further explained through the alternating use of flat and embossed plaques or by a clear differentiation between the size of major star units and their surrounding minor units. Identical effects materialised on doors belonging to the medallion type and the panelled type with their easy readable components. The same accounts for the strong geometric impression made both by grilles of the bosses and bars type and those of the geometric type.

<sup>82</sup> Its design is fairly standardized, as it consists of five 12-pointed star units, four of which are positioned at the extremities of an X-shape, and one at its core. Each unit is surrounded by six overlapping 9-pointed star units. Above and below the main field is positioned a wide inscription band.

Furthermore, the location of a fitting in a fixed position also has implications for overlooking details. What is striking about the composition of both doors and grilles is that they are built up of a multitude of small parts that are equally and minutely executed irrespective of the position they were to acquire in the larger picture. However, these minor details are lost to the eye when the object is positioned at a high level. This is exemplified by the grille (cat. no. 45/1) made for the *sabīl-kuttāb* of Sultan Qāitbāy (884/1479–80), the bosses and bars of which, irrespective of their location in the upper or lower half, are evenly executed with the titles of the sultan and the signature of the metalworker, respectively. Its measurements – 360 x 259 cm – and its installation in the façade at a height of approximately 130 cm allow the onlooker to view only the lower level in detail. Here a disjunction may be perceived between the work in a workshop and the final destination of each component part. This choice to treat all parts of fittings equally exemplifies a predilection for an overall aesthetic which, in the mind of the artist, excluded a separate treatment of the higher, out of reach, parts.

Besides the loss of detail, the monumental size of many of these fittings and their fixed positions also has consequences for the readability of their inscriptions. Although the choice of *naskh* as the most popular script on metalwork doors reveals the artists' inclination to present legible texts, their execution and position impedes reading them at times. With respect to the execution, the presence of engraved inscriptions or those hammered in *repoussé* set in a narrow band on three early doors illustrates the difficulty that arose when metalworkers were indifferent to the distance at which the objects were to be observed.<sup>83</sup> This practice was, however, already abandoned early on in Mamluk times, by increasing the space between letters, by deploying contrasting backgrounds to the words, by adjusting the size of the inscription bands, and by using engraved bands which allowed more space for diacritical dots, all to facilitate reading. Still, the height at which these bands were positioned often of itself complicated their legibility. In the case of window grilles the bosses of which contained inscriptions, the metalworkers neither adjusted the size of the script in the higher levels nor did they decide to limit the epigraphy to eye-level only. The writing, mostly comprising the titles of the patron, was there not to be understood but merely present. This is underlined even more by the fact that a number of the inscribed horizontal rows of bosses and bars of the window grilles (cat. nos. 47/7 and 47/8) adorning the *sabīl-kuttāb* in the mosque of Amir Qajmās al-Ishāqī were positioned upside down. Moreover, the actual rendering of the script, like the use of radial inscriptions on the bosses of some overall star pattern doors and doorknockers greatly impeded the readability of these texts. The circularity of the inscription resulted in leaving half of the letters upside down, and their small narrow rendering combined with the fact that they were immovably attached at heights above two meters suggests an anomaly between the intended aesthetic form, the close detail of which implicitly urged the onlooker to study the objects from close by and preferably rotating it, and the actual location of the object, which dictated how it was perceived.

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<sup>83</sup> Of the three examples there is one pre-Mamluk specimen, i.e. the inscription band on the entrance door (cat. no. I/1: Plates 266, 268) of the *bimāristān* of Nūr al-Dīn b. Zengī (549/1154) in Damascus. The other two are early Mamluk: the inscription on the entrance door (cat. no. 3/1: Plates 7, 9) to the complex of Sultan al-Manṣūr Qalā'ūn (683–84/1284–85) in Cairo and that on the door (cat. no. 5/1: Plates 14, 17) in the name of Amir Mankūtāmūr (698/1296–97).

## CONCLUSION

The Mamluks created a hierarchy among different types of doors and grilles by allocating the most conspicuous position in a building to those fittings that were most lavishly decorated, of the highest technical level, or objects on which precious metals were used. The decision to install the best door in the façade was a suitable allusion at the outset to the wealth spent on the entire enterprise and reflects the strong outward focus of Mamluk architecture in general. These fittings were not to be admired in a private sphere but served as a public statement and an exclamation mark to all.

Not all fittings were purpose-made for a particular building, as is made clear both by individual pieces the intact inscriptions of which reveal their former provenance and by the literary sources that recount an institutionalized assembling of huge quantities of metalwork fittings wrenched ruthlessly from their original settings. This reuse of metalwork does not stand on its own but belongs to a wider tradition of installing spolia of different materials in Mamluk buildings. This was mostly triggered by practical reasons, for the immediate availability of an object saved time while the costs of the manufacturing process were thereby also avoided. In a few cases, however, the re-use had a more symbolic reason, for example when objects were installed as trophies of war or to establish a link with former dynasties.

The installation of metalwork objects into the desired location also had implications for the object itself. Owing to the influence of pollution and the effects brought about by the elements and by continued use, the once dazzling golden colour changed into a dull green over the years. Moreover, the intricacy of the decorative motifs is anomalous vis-à-vis the monumental size of many fittings, especially when this ornament is located in the higher regions of a fitting. This factor, among several others, hampers the readability of inscriptions. Although the metalworkers were clearly aware of this fact, they executed each component part identically employing the same technical standard. They worked towards the creation of an overall aesthetic, in which it was more important for the message to be present, than for it to be legible.

The absence of a mutual relationship between metalwork fittings is best exemplified when the link is discussed between those fittings that actually shared the same space, namely doors and doorknockers. In the majority of cases, doorknockers followed an autonomous development in design and decoration that was on the whole independent of the doors to which they were attached and upon which they depended for their purpose. The same is true for fittings and their immediate surrounding: the overlap in designs is simply generic and should be understood to reflect the obedience of Mamluk craftsmen to the 'Mamluk style' in general. No serious effort towards a visual integration of the different decorative components of the façade in stone and metal was exerted. Metal fittings were thus designed as unique and complete artefacts, quite independent from their immediate context. They give the impression of standing on their own, which is not in the least emphasized by the fact that in the façade metal was used only sparingly amidst the overwhelming presence of stones.