palace of the Fatimid sultans; it was completed in 1310 during Baybars’ brief sultanate after he had triumphed over Salar and before al-Nasir Muhammad definitively regained the throne. Baybars’ complex is much larger than that of Salar, occupying a rectangular block over thirty meters wide and seventy meters deep. Its endowment deed provides information about the number and kind of personnel attached to a charitable foundation of the period. When completed, four hundred Sufis were appointed to the khanqah, of whom one hundred were resident, and one hundred soldiers and elderly sons of amirs were selected to live in the residence. Other personnel of the khanqah included the shaykh, Hanafi and Shafi’i prayer leaders, two repeaters, an attendant, a water-distributor, lamplighter, janitor, doorman, water-sprinkler, cook, housekeeper, bread-attendant, two broth-attendants, a weaver, an ophthalmologist, and a washer of the dead, and there were further personnel for the residence and the tomb. Their salaries and board were provided by the revenues of endowed properties.13

Al-Nasir Muhammad’s third reign (1310–46) was marked by great growth and monumental construction in Cairo. The sultan undertook a vast building program on the citadel, and the huge domes of the palace and mosque there (respectively 18 and 15 meters in diameter) dominated the Cairo skyline until the nineteenth century, when Muhammad ‘Ali erected a mosque on the site [194]. While the palace, the Qasr al-‘Abbâq, can be partially reconstructed from descriptions and nineteenth-century engravings,14 the only part that survives is the congregational mosque (1318–19). It is a freestanding rectangle (53 by 59 meters) with a central courtyard surrounded by two-story arcades and hypostyle halls. The prayer hall is four bays deep, the other three are two bays deep. The nine bays in front of the mihrab are covered by a large dome, originally of wood but restored several times. The outer walls are dressed ashlar; many of the columns and capitals inside are taken from Ptolemaic, Roman, and Christian buildings. The interior was once richly decorated with a high marble dado, but it was removed and shipped off to Istanbul in the sixteenth century (see Chapter 11, Note 16). The stone minarets [104], which stand at the northeast corner and over the north-west portal, are the most unusual feature of the mosque. The former has a rectangular base, a cylindrical second story, and an open hexagonal third story; the latter has a cylindrical lower shaft decorated with vertical zig-zags carved in deep relief, a cylindrical second story decorated with horizontal zig-zags, and a deeply fluted third story. Both are crowned with fluted bulbous cupolas and decorated above the third story with glazed tiles in light blue, manganese purple, and white. This unusual decoration was part of the second campaign on the mosque when the walls were heightened, the roof rebuilt, and the upper shafts of the minarets clad in brick and glazed tile. The techniques of brick and glazed tile, as well as the shape of the bulbous finials, are clearly foreign to the Cairene tradition. Al-Maqriti reports that a builder from Tabriz worked on the mosque of Qawam in Cairo (1310) and marked the minarets there on those of the mosque of ‘Ali shah at Tabriz [13]; and traces of glazed decoration on several buildings in Cairo indicate that Tabrizi tileworkers had a workshop there during the 1330s and 1340s.15 The taste for brightly colored decoration was already evident in Cairo in the late thirteenth century. Qârân’s tomb, for example, had been lavishly decorated with multicolored marble paneling, marble mosaic, and turquoise blue glass colomnettes in the arcades of the mihrab. The prosperity of Cairo during the reign of al-Nasir Muhammad encouraged craftsmen to emulate there; Persian techniques and motifs became more accessible with the rapprochement in Mamûk-Mongol relations in the 1320s.16

Whereas Baybars I had encouraged the extension of Cairo towards the new north-eastern suburb of al-Husaynîya, al-Nasir Muhammad encouraged his amirs to build south of the city between the Fatimid walls and the citadel in an area that had been a cemetery and was to become a major processional route. He provided many of the amirs, who in some cases were his sons-in-law, with building materials and the necessary funds for construction. Many of these amirial foundations were congregational mosques, built to meet the needs of a burgeoning population. As strict Shafi’i, the Ayyubids had allowed only one congregational mosque in any urban entity, but this restriction was relaxed under the Mamûls, who often favored the Hanafi rite, which pag no limitation on the number of congregational mosques. Some of these mosques were modeled on the example built by the sultan on the citadel, but they vary considerably in size. The grandest is the mosque built in 1339–40 on the Darb al-‘Abbâq by al-Hamid al-Mâridini, cup-bearer and son-in-law of al-Nasir Muhammad and later governor of Aleppo.17 The plan of the mosque closely follows that of al-Nasir Muhammad on the citadel; the similarity is not surprising as al-Hamid’s mosque was designed by the court architect, master (Arab. mu‘allim) Ibn al-Suyuti.18 The mosque measures approximately forty-three meters on a side, but the eastern corner has been inset to adjust the façade to the angle of the street. Shallow panels with muqarnas hoods enliven the exterior. The octagonal imaret next to the entrance is crowned by a little dome supported on slender columns. The interior decoration of the mosque is particularly fine and displays most of the contemporary decorative repertoire, such as marble paneling, carved stucco and wood, and tiled windows. A splendid mahdûbâya grille screens the prayer hall from the court [105]. The mihrab is particularly colorful with its mosaic of colored stone and mother-of-pearl, turquoise glass colomnettes, and joggled voussoirs in contrasting colors, and the qibla wall is decorated with stucco unusually carved to represent trees.

The forty years following al-Nasir Muhammad’s death in 1341 marked a return to the turbulence of the previous era. Egypt and Syria were ravaged by severe economic and social problems, while Mamluk amirs vied for power under Qârân’s unipol. In just seven years, the sultanate passed to seven of al-Nasir Muhammad’s sons. The seventh was Husam, an eleven-year-old who was installed as sultan in the summer of 1347, although a junta of amirs controlled the administration and treasury. The financial reserves accumulated by al-Nasir Muhammad had already been depleted, and the economic problems of the regime were exacerbated by the arrival of the Black Death in Alexandria in the autumn of that year. Approximately one-third of the population, estimated at two-hundred to two-hundred-fifty thousand, is thought to have died, and subsequent epidemics of pneumonic plague kept the population from regaining its earlier level.19 After four years Husam was deposed, and Salih, yet another young son of al-Nasir Muhammad, was put on the throne. Salih was himself deposed three years later and Hasan retrieved from the harem where he had

104. Cairo, Citadel, Mosque of al-Nasir Muhammad, 1318–33, minaret.

been imprisoned. During his second reign from 1354 to 1361, Hasan became increasingly unpopular, as he was stingy to his mamluks and siphoned money from the state treasury to pay for his massive funerary complex.

This colossal project, probably the greatest of all Mamluk buildings, was built at the western foot of the citadel on a site adjacent to the large madrasa. Begun in 1356, it was still unfinished when the sultan was deposed five years later. Specialists (Arab. muhandisun) were invited from all over the Islamic world to assist in this most ambitious construction project of the period.48 Measuring some one hundred fifty meters long and sixty-eight meters wide, it covers an area of nearly eight thousand square meters and contains a cruciform congregational mosque with four madrasas and a mausoleum of imperial scale, as well as an orphanage, a hospital, covered bazaar with shops, water tower, baths and kitchens. The plan [106] is oriented in two directions: the service block, including the entrance, ablution facility, and water tower, is set at an oblique angle to the mosque, madrasas, and tomb, which are all oriented to the qibla and raised on a high plinth.

The exterior façade is articulated with regularly spaced, shallow vertical niches and crowned by a deep muqarnas cornice once surmounted by crenellations. The extraordinary portal [107], rising thirty-seven meters above the current street level, is crowned by a superb muqarnas semidome and flanked by spiral-cut pilasters and vertical panels. The unfinished state of the carving on many of the panels shows that large decorative elements were cut to size before they were erected, while small ones were carved in place. The portal’s height would have been accentuated by the two minarets that were intended to surmount it, but three months before the patron died, one of them collapsed, killing three hundred people in its fall. This event was seen as an augury of the collapse of the sultan’s power, and construction was halted. The carved stone decoration around the portal is of the highest quality and includes such Chinese motifs as chrysanthemums and lotus flowers.

Superb bronze doors, illegally removed by sultan Mu’ayyad to his mosque at Bab Zuwayla [114, 115], opened to a cruciform vestibule with a raised platform at the rear and a stunning muqarnas vault above. The vestibule gives access to a long double-bent passageway which leads to the center of the complex, a magnificent court paved in marble with a decorative fountain in the center [108]. On each side of the court is a soaring iwan, and the corners of the building between the arms of the iwans house madrasas for the four orthodox schools of law. Each has its own smaller court surrounded by four or five stories of rooms for students. The south-east iwan is spanned by an enormous vault which contemporaries believed surpassed the Sassanian arch at Ctesiphon, considered one of the wonders of the world.49 Just the wood used to construct the center for this arch cost one hundred thousand dirhams, or more than the cost of an ordinary mosque. The iwan served as the prayer hall of the complex, and the mihrab and surrounding qibla wall are paneled in marble slabs of contrasting colors. To the right of the mihrab is a marble mihrab, much praised by contemporaries, and in front of it is an equally fine alqâba, or tribune, for the official charged with repeating the daily prayers so that all worshipers could hear and follow the service. Around the iwan at the springing of the vault is a superb stucco band with a large Koranic inscription carved in monumental Kufic against a floral arabesque ground. Doors flanking the mihrab lead to the tomb beyond the qibla iwan; that on the right is original and of exceptional workmanship, plated with bronze and inlaid with silver and gold. The tomb chamber, a simple square, is the largest domed mausoleum in Cairo, measuring twenty-one meters on a side and thirty meters to the top of the walls. At its center is a wooden screen enclosing a raised marble cenotaph, but only Hasan’s two young sons were buried there; the sultan’s body was never recovered after his assassination. All four walls are paneled with marble; above is a wooden band carved and painted with the Throne Verse (2:253), the well-known Koranic passage dealing with God’s majesty.50 Wooden muqarnas pendentives, lavishly painted and gilded, once supported a bulbous wooden dome, but the present dome is a restoration. This lofty chamber was once illuminated by hundreds of glass lamps, specially commissioned for the building [118].

The architect of this building ingeniously resolved the problem of maximum urban visibility and religious orientation toward Mecca. On the exterior the tomb’s visibility from the citadel, seat of Mamluk power, was maximized by having three sides of it project from the main building and by framing it with two other minarets, of which only the southern one retains its original form. Putting the tomb behind the sanctuary meant that worshippers had to pray directly toward the tomb. The complex of Hasan represents a culmination of many elements in earlier Cairene architecture, but its size and largely freestanding position made it
exceptional. Other features, such as the four-iwan plan with dome behind the qibla iwan, the portal framed by minarets, and the domed vestibule, are innovations in Cairene architecture. Some scholars have even referred to particular monuments in Central Asia and Anatolia, but it seems far more likely that the immediate models were the now lost imperial constructions of the Ilkhanids in north-western Iran, such as Ghiyath's funerary complex at Tabriz and Ujijayi's complex at Sultanbayan, where many of these same features were found in one building (see Chapter 2). The Ilkhanids had been the major power in the early fourteenth century and their monuments still represented the imperial ideal. With the collapse of the Ilkhanid state in 1335, the imperial building tradition there came to a halt. In the ensuing turmoil and plague throughout the Middle East, artisans would have gravitated to Cairo, bringing with them techniques and motifs, such as muqarnas vaults, square Kufic inscriptions, and chinoiserie, already popular elsewhere. Ibn Khaldun, the great philosopher of history who arrived in Cairo in 1382, twenty years after Hasan's death, wrote that large cities and high monuments were built only by strong royal authority, and he cited the examples of the pyramids and the iwan at Ctesiphon.14 Sultan Hasan, the weak and inept ruler of Egypt, sought to make his mark with an equivalent monumental construction, his stunning architectural achievement belies his political ignominy.

Had the Cairene builders been able to erect a stone dome over the intended tomb of the sultan, they undoubtedly would have done so, but its enormous size must have forced them to use wood. Its bulbous profile, however, is common to several other funerary domes erected in Cairo in the middle of the fourteenth century. The one over the tomb of Amir Sarghatshin (1356), for example, has a smooth profile, but the more common type has ribs rising from a muqarnas cornicion around a high drum. The best examples are found in an anonymous mausoleum in the Sūnār Cemetery known as the Sūnārīya, which probably dates to the 1320s.15 It consists of two ribbed bulbous domes on high drums flanking a vaulted iwan.16 The iwan originally opened onto a court, of which only a minaret in one corner remains. Each dome had a ribbed stone shell cemented onto a brick shell, and the whole is buttressed by a system of interior supports hidden in the space behind the drum and above the lower inner dome. This system attempts to translate the structural requirements of a brick dome into limestone; it clearly shows that this was a foreign type of construction imported to Egypt from the Iranian world. The earliest examples there, however, such as the غور Mišīr in al-Sanābrūnī [33–54] date from the early fifteenth century, but there must have been earlier ones that have not survived, and the Iranian tradition of double domes constructed in brick can be traced back as far as the eleventh century.17 The carved low-relief decoration on the drum of the eastern tomb — floral arabesques between the windows and a band of square Kufic above — is another translation of Iranian tile motifs into carved stone. The increasing congestion in the metropolis of Cairo meant that choice sites were harder to obtain, and enhancing the visibility of a building from afar, whether by increased height or distinctive profiles, became all the more important. The tendency toward extreme height is exemplified in the small mausoleum of Yūsuf al-Dawādir (1384) near the citadel.18 Its dome and drum are so elongated that the building has often been mistaken for a minaret.

After the death of Sultan Hasan in 1360, the supply of al-Nasir Muhammad's tax was exhausted, so one of his grandsons, al-Manṣūr Muhammad, was enthroned, continuing the old pattern of a series of brief reigns by epigones of Qālūn manipulated by strong Mamluk amirs. Even this system collapsed by the 1380s when intense strife within the Mamluk corps brought Barqūq h. Anār (r. 1385–99, with interruption) to the sultanate. Barqūq inaugurated the line of Circassian (or Būrij) Mamluks, who were related not by blood, like the Qālūnids, but by chancery, for the great majority of Barqūq's successors were his mamaliks, mamelukes of his mamalik, and so on. If the history of the Turkish Mamalik was violent, that of the Circassian Mamalik was tumultuous. Yet despite a ruined economy, plague, drought, and the European discovery of a sea-route to India bypassing Egypt, this period was one of unparalleled building activity; 233 monuments survive in Cairo alone.19

Architecture of the Circassian period is distinguished by several notable developments, some already present at the end of the earlier period. As space became increasingly scarce, buildings became taller in relation to their base area. Funerary complexes remained the major building type, but as orthodox opposition against the construction of tombs moderated, tomb chambers became increasingly important and central in the plan. Stone continued to be the major material of construction, but as wood and marble became increasingly scarce, inventive techniques had to be found to use the limited supplies to greatest advantage. Surface ornament, both on the exterior and the interior, became increasingly elaborate and shows the impact of designs developed and used in the other arts. Molds are part of the architecture around panels of columns, windows, zones of transition, and domes is a hallmark of the Circassian style.

Syria, which had been ravaged by the rivalries of warring Mamalik amirs, fell an easy prey to Timur, who attacked such major cities as Aleppo, Homs, and Damascus in the winter of 1400–1. His brief campaign was not aimed at annexation but was meant to collect booty and demonstrate his superior power and prestige. Although Aleppo submitted without a struggle and was spared, Damascus was pillaged and burned to set an example of Timur's might.20 Timur left Syria in the spring, sending any artisans and qualified workmen who were left in the city to Samarqand. This mass deportation was one of the greatest catastrophes in the history of Damascus, and fifteenth-century buildings there, such as the al-Qali minaret (1470), are more ostentatious than those in Cairo,

CHAPTER 7

Architecture in Egypt, Syria, and Arabia under the Circassian Mamaliks (1389–1517)


than innovative. Damascus patrons desired showy façades, loaded with polychrome and carving and dripping with muqarnas to conceal uninspired structures. Safe from the Timurid raids, Cairo remained the center of Mamluk power and display. Sultan Barquq was an upstart: he had no Kipchak Turkish ancestry nor had he begun his career in the service of the old royal family. To consolidate his shaky social position, he married a widow of sultan Sha‘ban, one of the last of Qala‘un’s descendants, and to further establish his legitimacy, he built his family mausoleum on the qawawis of Cairo. Few sites there were still available, but he somehow acquired a caravanserai which was one of the charitable foundations dependent upon the adjacent madrasa of al-Nasir Muhammad. The site provided some forty-five meters of street frontage, and the complex of mosque, madrasa, khanaqah, and mausoleum was made all the more prominent by projecting the façade three meters into the street. The plan is similar to that of the nearby madrasa built by Qala‘un a century earlier [96], but the building incorporates features developed in Havana’s complex such as the monumental entrance and vestibule, cruciform plan, and court façade. The materials and decoration, however, differ significantly from those of the earlier foundation and set the style for Cairene architecture in the first half of the fifteenth century. Bronze, marble, wood, and even stucco had become dearer and scarcer, and techniques were developed to use them sparingly for the greatest effect. The doors inside Barquq’s complex are not faced with bronze, but decorated with a central bronze medallion and quarter-medallions in the corners, in a design reminiscent of contemporary leather bookbindings. Thin strips and chips of colored marbles made up the requisite marble paneling, which was sometimes replaced by stone for crenellations, moldings, and vaults. For screenwork, turned wood was often replaced by “mahwood,” grooved splinters joined together, as on the windows of the façade. The mihrab [111] is framed by prismatic columns which have been trimmed to provide thin marble strips for paneling; the blue Pharaonic or Ptolemaic ivory colonnettes, Egyptian faience bosses, mother-of-pearl, bismuth, and glass paste in the niche stand in for the marble mosaic of earlier times.

Barquq’s family mausoleum was only the final resting place for one of his daughters; he himself had requested in his will that he be buried in Cairo’s Northern Cemetery near the tomb of his father, whom he had invited to Egypt, and revered Sufis. Accordingly, Barquq’s son Faraj (r. 1399–1412, with interruption) erected an enormous complex in the desert to the east of the Fatimid city walls. The site, which had been used as a hippodrome in early Mamluk times, began to be used as a cemetery in the early fourteenth century, but under Faraj major efforts were made towards integrating the area into Cairo’s urban fabric. For example, the procession beginning the pilgrimage to Mecca was rerouted through this district. The sultan ordered a large residential area constructed; it included baths, bakeries, grain mills, lodgings for travelers, and a marketplace, but all that survives is the khanqah. The open site in an outlying district allowed for a large, freestanding, and symmetrical building [112] like the Mosque of Baybars [93]. The building is an open square, measuring seventy-three meters to a side. The main façade on the north-west has twin entrances, twin drinking-water dispensary and elementary schools (Arab. subh-ulaih), and twin minarets at either end. Corridors lead to a spacious open court, whose sides are occupied by porticoes with four stories of cells and dependencies behind. Hypostyle halls three bays deep stand on the north-west and south-east, the latter serving as the prayer hall. The small dome over the bay in front of the mihrab is flanked by the twin domes of the mausoleum. Measuring just over fourteen meters in diameter, they are the largest stone domes in Cairo and masterpiece of Mamluk engineering. On the exterior they are decorated with horizontal bands of zigzags which are exactly coordinated to the structure and contrast as the stones diminish in size toward the top. This system replaced the arbitrary ribs of earlier examples [109] and became the most popular type of decoration for Cairene domes. The enormous thrusts of the domes are absorbed by massive masonry zones of transition, which are visually lightened by an ingenious arrangement of concave and convex moldings [113]. On the interior the domes are painted in red and black with patterns simulating marble, which would have been too heavy and too expensive to use. Matchwood grilles in geometric patterns screen the entrances. The northern tomb contains the bodies of Barquq, Faraj, and his son, while that on the south contains the bodies of Barquq’s daughters and their nurse. An arcade to the north connected the modest tomb of Barquq’s father, Shurah al-Din Anas, to the complex.

Faraj’s reign was notable for the uninterrupted struggles between the sultan and his amirs; he was deposed in May 1412 and killed several weeks later. After a brief reign by an Abbassid caliph, whose line had been reestablished in Cairo by Baybars I in an attempt to add prestige to the new Mamluk regime, the sultanate passed to the former viceroy
of Damascus, Shâhâd al-Mahmûdi, who took the regnal name al-Mu'ayyad (r. 1442–51). This pattern of a usurper followed briefly by his son who was overthrown within a few years was repeated throughout the Circassian period. According to the contemporary historian al-Maqâlî, al-Mu'ayyad had been imprisoned in Cairo while still an amir, and he vowed to transform the infested prison into a place of prayer and study. This vow also provided a good excuse to acquire a valuable piece of downtown real estate. The large pious foundation, which included a congregational mosque, three minarets, two mausoleums, and a madrasa for the four sites dedicated to Sufi students, was begun in 1415; it remained unfinished at the sultan's death.

Al-Mu'ayyad's mosque, measuring eighty-five by eighty-two meters, stands at the southern end of the qâbâh adjacent to the Fatimid gate, Bab Zuwaya, which supports two of the three minarets the building originally had. The main portal opens at the north end of the principal façade on the qâbâh. Reverted in alternating courses of black and white marble, it consists of a deep recess crowned by a trilobed masqarâs vault, the whole inset in a rectangular frame rising above the cornice. Known in Persian as a pîshâj (see Chapter 2), this feature was ubiquitous in Iranian architecture and had already been used on the north portal of the complex of Faraj in the northern cemetery. The doorjambs and lintel (a Pharaonic block of pink granite) are framed with a white interlaced band inset with red and turquoise paste. The portal leads to a rectangular vestibule, with two recesses on the axis covered with trilobed masqarâs hoods, like that of the portal. The center is covered with a folded groin vault, raising to a recessed cross [115]. This elaborate type of vault probably originated in Syrian military architecture, but its decorative possibilities were developed in the religious archi-

113. Cairo, Complex of Faraj b. Barquq, court
tecture of Jerusalem and particularly Cairo in the fifteenth century. The vestibule leads to the courtyard, which was originally surrounded by four halls, an arrangement much like that of the complex of Faraj, but only the hypostyle prayer hall on the qiblah side survives. Three rows of eight marble columns support a lavish decorated wooden ceiling, but the major decorative emphasis was reserved for the qiblah wall [115]: a high dado of two registers of white and black marble and porphyry is surmounted by a frieze of paired colonnettes made of turquoise blue glass. The window surrounds are inlaid with patterns of joggled vousoirs and arabesques; the area around the mihrab is decorated in the same manner but with particularly fine detail. To its right stands the original wooden minbar inlaid with ivory, a fine example of the richness of contemporary woodwork. As in the complex of Faraj, the prayer hall was designed to be flanked by two domed mausoleums, but only the one on the north, containing the cenotaphs of the sultan and his son, is domed. The deeply articulated zone of transition and the chevron pattern on the shell are virtually identical to those at the complex of Faraj, although the dome is somewhat smaller. The cenotaphs have splendid decoration in foliated Kofe, a deliberate revival of an earlier style.

The sultan spent enormous sums on the construction and endowment of the complex; according to contemporaries the figure approached one hundred thousand dinars. When costly materials were unavailable, the sultan expropriated elements of earlier foundations. Although he paid into their endowments, the practice was still illegal, for once endowed the buildings and their fittings could not change owners. Nevertheless, against payment of five hundred dinars, the magnificent bronze doors and chandelier were taken from the complex of Hasan, which was then largely abandoned. The large plaques of marble on the qiblah wall were expropriated from old houses in Alexandria and shipped upriver, for no marble had been quarried in Egypt since Antiquity, and marbles were already scarce in Barquq's time. Decoration of such richness or capacity would not be possible again.

Similarly, borrowing the towers of Bab Zuwaya for the bases of the minarets gave them a prominence they might not otherwise have had: they are clearly visible from a great distance along the qâbâh and soar over fifty meters above the street. It may be their prominence that led the builder Muhammad b. al-Qusayr to sign and date his work, a rare example of an architect's signature in medieval Cairo. The expropriation of the past extended to motifs as well; the court façade above the arcade is decorated with blind keel arches alternating with rosettes in the manner of the Mosque of al-Ma'dâni [105]. The ample endowment and large library made the complex one of the most prominent academic institutions of the fifteenth century. Its professorial chairs were filled by the most eminent scholars, such as Ibn Hajar al-Asqalani (1372–1449), the expert in Koranic exegesis.

Most of the fifteenth century was a period of political turmoil and economic decline, although sultans such as Barsbay (r. 1423–37) and Inal (r. 1453–61) continued the tradition established by Faraj of erecting magnificent
funerary complexes in the Northern Cemetery. The authority of the sultanate was reestablished by al-Ashtar Qa‘ibay (r. 1468–96), who stabilized the economy and inaugurated an unprecedented revival of the arts. He was responsible for some sixty-five projects, many encompassing several buildings, in every quarter of Cairo and in Mecca, Medina, Damascus, and Jerusalem. The buildings of his reign are notable not for their size, but for their elegance and harmonious style. Furnished with the products of revived craft industries, particularly metalwork and manuscripts (see Chapter 8), they came to represent the paradigm of Mamluk architecture.11

The largest and best-preserved of Qa‘ibay's buildings is his funerary complex (1472–4) in the Northern Cemetery of Cairo. The irregular plan reveals that the building is an agglomeration of self-contained units connected only by corridors. A flight of steps on the north rises to the tall portal [117], crowned with a groined vault in bichrome masonry. To the left is a water dispensary (Arab. sahib) on the ground floor with the open loggia of a Koran school (Arab. kuttab) above. To the right the slender and elegant minaret rises forty meters from a square base in a succession of octagonal, cylindrical, and conical stories separated by balconies on muqarnas cornices and crowned by a bulbous finial. Passing through the portal, one enters a groined vaulted vestibule with a raised bench opposite, a vestige of the tradition inaugurated in the complex of Hasan. A door on the left of the vestibule leads into the water dispensary; one on the right leads to a stair ascending to the Koran school and minaret and a bent passage leading to the madrasa and tomb. The madrasa [118] consists of a square court with a wooden roof having a central lantern; there are shallow iwan on two sides and rectangular halls on the two ends, the larger one at the qibla end serving as a prayer hall. The roofing of the court and the truncation of the side iwan are features adopted from domestic architecture, particularly the reception room of Caïrune great houses (Arab. qa‘es, see below), and the impact of the qa‘es on Caïrune religious architecture can already be seen in the madrasa of Amir Mihqal (1384–9), which nevertheless has an open court.12

The richly decorated interior, with marble paving, painted and glazed wood, bichrome masonry, and colored glass, is heavily restored, but gives a good indication of the harmonious opulence of the Mamluk style.

To the right of the prayer hall lies the tomb, with the sultan's cenotaph within a wooden screen in front of the marble mihrab. The chamber is a square, measuring 9.25 meters to a side and 31 meters high. The lower walls are over two meters thick to support the weight and absorb the thrusts of the enormous dome. Inside, the zone of transition consists of pendentives with nine tiers of shallow muqarnas between triple narrow windows surmounted by three oculi. A narrow drum with sixteen windows supports the dome, which is quite plain. The exterior [117], however, is the masterpiece of carved masonry domes, comprising two networks of contrasting arabesque and geometrical interlace perfectly fitted to the decreasing domical surface. While the
the drinking-water dispensary and elementary school he erected on the Saliba, the street leading west from the maiden below the Citadel [119]. This building is the first example of a freestanding ab' al-hubab in Cairo, for earlier ones had been attached to religious or commercial structures. The type became a favorite for patrons with limited resources, particularly in the Ottoman period, when nearly one hundred were built [116]. Qal'atib's structure has the fountain house at the north-west corner and the main portal facing a small square on the west. Although the upper story has been restored and the interior adapted for use as a center for commerce, the exterior preserves some of the finest architectural detail of the later Mamluk period. Its unusually extravagant polychromy has been obscured by grime, but the effect is still striking. A raised double fillet interrupted by circular knots divides the exterior into variously shaped panels. An inscription band wraps around the top of the portal and the fountain. Below it, the tall and narrow portal, with a characteristic trilobed hood, is revetted with black, white, and red striped masonry. The spandrels contain Qal'atib's epigraphic emblem, set off against a ground of arabesque worked in low relief. Perhaps the finest decoration is found in the nine panels above the fountain grille, which are arranged in three rows of three. The lintel is decorated with intersecting trefoils inlaid in black and white, which is flanked by arced niches in shallow bevelled relief. The relieving arch has intricately jogged vousoirs in black and white and is flanked by geometric inlays inlaid in blue and white paste and red stone. The octagon is inlaid with arabesques in various colors, of which only the white has survived. The central panel is flanked by medallions inlaid with blue and white paste in a geometric inlay generated from a red hexagon. The layout of the interior is unusual, even in late Mamluk architecture, and seems to be explained by the nature of the building, which was meant to reinforce the external image of the prominent site on an important Cairene thoroughfare. The compartmentalized design of the façade is reminiscent of contemporary book illumination [143] and suggests that in late Mamluk Egypt, as in contemporary Iranian art, designs were freely exchanged from one medium to another. These designs were undoubtedly worked out first on paper, which at that time was readily available and reasonably cheap, and then realized in carved stone, inlaid metal, or paint and ink on paper. Qal'atib built extensively in the holy cities of Mecca and Medina. After the Mosque of the Prophet in Medina was seriously damaged by fire in 1473, Qal'atib ordered it rebuilt, and the materials and construction are described in detail by contemporary historians. Qal'atib's activities in Mecca and Medina were motivated by more than piousness. The rise in power of the Ottomans and Timurids to the north of the Mamluk domains, sovereignty over the Holy Cities became an increasingly important symbol of power within the Islamic lands of the eastern Mediterranean region. Jerusalem, the third holiest city in Islam, was also important to Qal'atib not only for its associations with the Prophet, but also as the city from which the Franks. Between 1480 and 1482 Qal'atib ordered a large madrasa, known as the Ashrafiyya after its founder's epithet, for an extremely prominent site on the western encloae of the Haram al-Sharif facing the Dome of the Rock. The site had been occupied by an earlier madrasa, begun for the Mamluk sultan Khusraw Qanuni in 1465, but when Qal'atib saw the building in 1475, he found it unsuitable and had it replaced with another construction. Only parts of the lower stories have survived, but the extensive contemporary documentation of the building and careful investigation of the remains allow its original disposition to be imagined [120]. The most striking feature of the building is the façade, some twenty-five meters wide, which projects in front of the arcade that forms the western boundary of the Haram. This unique encroachment was undoubtedly a result of royal prerogative, for it is the only royal foundation of the Circassian period in Jerusalem and recalls Barquq's usurpation of the street for his complex in Cairo. Less prominent patronage had to have sites as close as possible to the Haram, or, less preferably, along the thoroughfares leading to it. The design is flanked by a window on the right side of the ground floor, leading to a large rectangular assembly hall which incorporates three bays of the west portico. The bay on the left comprises an elaborate entrance porch with access to a vestibule and staircase leading to the upper stories. The madrasa proper lies upstairs. It had a large rectangular hall whose disposition was quite similar to that of Qal'atib's foundation in Cairo, except that the east wall had a three-bay loggia giving an uninterrupted view of the Dome of the Rock. Residential cells were disposed around an open court built over the adjacent Bab al-Duwayra madrasa.

The contemporary historian al-Majri al-Din said that the earlier madrasa on the site did not live up to Qal'atib's expectations, being "built after the fashion of Jerusalem madrasas, which are not up to much." Consequently he sent a team of stone-cutters and builders from Cairo to work on the new madrasa, and many of its features, such as the folded groin vaults, raised double fillets with circular knots, intricately jogged vousoirs, and arabesques inlaid in white, black, red, and blue, are found in Qal'atib's earlier buildings in Cairo. As the most important city in the Mamluk realm, Cairo had attracted artisans from provincial capitals, and the metropolitan Mamluk style of architecture incorporated the best features of the provincial styles. This is a rare example of a building ordered by a sultan outside of Cairo, for most buildings in provincial centers were founded by local figures, either powerful ones or ones out of power who had been "retired" to the provinces to be kept under surveillance.

Three months after the completion of the madrasa, the fountain house to its north-east was rebuilt. Qal'atib had already ordered extensive repairs to the water-supply system of Mecca, Medina, and Jerusalem, as signs of his sovereignty over the Holy Places, following the example of al-Nasir Muhammad in the early fourteenth century. This charming building [121] is 13.8 meters high and has a small, nearly square (4.60 by 4.50 meters) base supporting a stepped cone of transition, a short drum, and a pointed dome. The arabesque carving of the dome, while quintessentially Egyptian in style, is hardly Egyptian in execution, for it is inconsistent and ambiguous. Compared to the dome over Qal'atib's tomb, the pattern is poorly adapted to the domical surface and there is no consistent relationship between the rising masonry joints and the vertical axes of the pattern. Given its date and Cairene features, it has been suggested that the fountain was begun by the same team of Egyptian craftsmen who had recently completed the nearby madrasa. As the madrasa had no tomb, and therefore no dome, there had been no need to import a Cairene specialist in dome design from Cairo, and the dome over the fountain is an amateur attempt at a highly specialized job. 