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## Form and Ornament of the Cairene Bahrī Minbar [avec 6 planches].

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# FORM AND ORNAMENT OF THE CAIRENE BAHRI MINBAR<sup>(1)</sup>

Gloria S. KARNOUK

Technical analyses relies less upon the literary sources, almost none of which describes the details of carpentry or minbar construction, than upon inspection of the minbars themselves. The construction of modern woodwork, which is apparently perpetuated by conservatism, and the current terminology gives every reason to believe that the present forms and techniques reflect those of the Mamluk period.

Cairene Bahri Mamluk wooden and marble minbars (see tables)<sup>(2)</sup> are similar to one another in composition, differing primarily in technique of work and ornamentation. Both types (Pl. I, 1 and IV, 3) are small edifices consisting of a staircases which is entered through folding doors fitted into an entrance portal. They are enclosed by high triangular sides supporting a balustrade and terminating in a throne surmounted by a domed canopy. The wooden minbars are architectural elements not attached to the walls, whereas marble minbars are anchored to the *qibla* wall, thereby becoming an integral part of the architecture. In this way, the *qibla* wall must be decorated specifically to accommodate the presence of the minbar. Minbars, however, tend to intrude upon the overall architectural perspective of the mosque interior and this is likely the reason why, in North Africa, they were stored in cupboards while not in use<sup>(3)</sup>. But habit, and the fact

<sup>(1)</sup> This article is based on my theses «Cairene Bahri Mamluk Minbars with a Provisional Typology and a Catalogue», Diss. American University in Cairo : 1977.

<sup>(2)</sup> The Tables at the end of the text will include a list of the extant Bahri minbars, their dates, situ and Index nos., their material, types, and present conditions.

<sup>(3)</sup> K.A.C. Creswell, *Short Account of Early Islamic Architecture* (Harmondsworth 1958), pp. 71-2. H. Terrasse, *l'Art Hispano-Mauresque des origines au XIII<sup>e</sup> Siècle* (Paris 1932), p. 384. G. Marçais, «La Chaire de la Grande Mosquée d'Alger», *Hesperides*, tome 1, pp. 359-85.

that minbars can be seen as being aesthetically pleasing in and of themselves, has made such an intrusion acceptable in other regions.

Although they are partly the products of the local artistic tradition, the relatively few extant contemporary Syrian and Anatolian minbars provide important comparative material for the study of Bahri examples. North African, Iraqi, and Persian minbars did not evolve in the same manner, having neither portals with folding doors nor domed canopies. As the structural development of Bahri minbars evolved differently from contemporary minbars in other countries, a detailed examination of their particular features is necessary. But when considering structural forms, one must bear in mind that some restorations, including those of the «Comité de Conservation des Monuments Islamiques», which can often be traced through its reports and photographs, may on some occasions have radically altered certain aspects of the original design of the minbar.

## PORTALS

Portals and domed canopies are architecturally inspired elements which were later developments in the form of the minbar, probably explaining why they share certain features such as crenellations. The arches of Bahri minbars may appear to be similar on portals and canopies but, in fact, they are not identical. However, on the relatively late minbar of Taṣṭar al-Ḥiğāziyya (761/1360; fig. 2), which in many ways represents a transition between the Bahri and Circassian styles, the arches (fig. 2 and Pl. I, 2) are identical<sup>(1)</sup> and the stalactite cornices are of the same type, thus foreshadowing Circassian minbars.

The standard Bahri portal follows the form of that of the Fatimid minbar of Qūṣ (550/1155)<sup>(2)</sup> and is likewise held together by jambs with square cross sections, between which is inserted a panel containing the usual constructional or Quranic

<sup>(1)</sup> Only the arched screens of the canopy are extant, but the portal arch design is preserved in J. Bourgoin, *Précis de l'Art Arabe* (Paris, 1892), (Menuiserie), pl. 79,2.

<sup>(2)</sup> E. Pauty «Minbar de Qūṣ», *Mélanges Maspero III*, 1940, pl. I-III, pp. 41-48. Comité

*de Conservation des Monuments de l'Art Arabe*, 1900, p. 110, pl. III-IV. M. van Berchem, *Matériaux pour un Corpus Inscriptionum Arabicorum*, 1<sup>re</sup> partie, Egypte (Le Caire 1894-1903), pp. 716-18, pl. XLIII, 2.

inscriptions<sup>(1)</sup>. The upper cornices, formed by the transverse plank above the portal, terminates in a moulded projection at each end and is usually surmounted by a row of crenellations. The portal is attached below by a plinth and the doors are set behind moulded screens (Pl. I, 3; IV, 1-2 and 3).

The flaring cornice on the portal of Lāğin minbar, like the similar one on its canopy (Pl. I, 3), is, therefore, uncharacteristic of the typical Baḥrī minbar; it is, however, similar to Circassian and mid-fourteenth century marble portals (see tables). The latter, though boldly headed with three tiers of stalactites, do not have such cornices repeated on their canopies (Pl. I, 1). Such duplication of cornices on the canopies is not seen prior to the minbar of Taṭar al-Ḥiğāziyya. The four tiers of pointed stalactites on the portal and canopy of Lāğin minbar emerge as even more problematic when compared to the rounded stalactites on the wooden domes in front of the *mīhrāb* which was also built by Lāğin (Pl. I, 4)<sup>(2)</sup>; these cornices were present when the Comité was about to restore the minbar. There is no evidence of any fifteenth century restoration of this portal, although the canopy, with an identical stalactite cornice, has an angular vertical chamfer on the back corner of the throne which suggests the earlier presence of a column of the type supporting the canopy of al-Māridānī minbar (Pl. II, 1). This may indicate that some sort of alterations might have been carried out at an indeterminate date, particularly in that the usual arches of the canopy are absent.

The portals of marble minbars with their stalactite heads seem to reflect mosque porches. This impression is reinforced by the four engaged columns, with stalactite capitals, at the corners of the door jambs of the minbar of Sultān Hasan (Pl. II, 2), as they are of the same type as those found on the façade of that mosque. Previous

<sup>(1)</sup> On the minbar of *Qūṣ*, the foundation inscription is flanked by two small rectangular carved panels missing on the Baḥrī minbars where the inscription panels fill up the whole area as on the Fatimid minbars of Hébron and Mt. Sinai.

<sup>(2)</sup> The angular type of stalactites was used exclusively in pre-Mamluk Egypt, and

that is probably why it is known locally as the «*baladi*» type whereas the rounded stalactites were introduced during the Mamluk Period and were known as the «*ḥalabi*» type since it came to Egypt through Aleppo. The Mamluks adopted both types and often together but, in harmonious arrangements as for eg. on alternate niches (see note 1, p. 116).

Islamic columns in Egypt had bell-shaped capitals; stalactite capitals of the typical Islamic variety are used perhaps for the first time in Egypt on the columns of the minbar, porch, and porch side niches of the Mosque of Sultān Ḥasan. There is only one slightly earlier extant example on the *tābūt* of Ṣargatmiš (757/1356; Index n° 218, Pl. II, 3). Other similarities between this *tābūt* and the minbar of Sultān Ḥasan suggest the work of a single master or atelier, as both have similar stalactite cornices, mouldings, and stalactite capitals on their engaged corner columns<sup>(1)</sup>.

Crenellations are features derived from architectural models and were mentioned by Ibn Ḡubair (c. 1187) in his description of the *mihrāb* and minbar of the Great Mosque of Aleppo<sup>(2)</sup>. In Bahri Mamluk minbars the crenellations are of the *fleur-de-lys* type ranging from simple to more complex forms such as those on the minbars of al-Māridānī and Sitt Miska (Pl. IV, 3 et 1). Profiles of such forms had already been seen in joggled voussoirs as on the central window of the mausoleum of Ṣāliḥ Niğm al-Dīn Ayyub (647-8/1249-50). Complex forms later

(1) The stalactites, however, are alternate i.e., the pointed ones on the cornice of the cenotaph are reproduced on the columns of the minbar, whereas the pointed stalactites on the *tābūt* capitals of columns are repeated on the cornice of the minbar. The cenotaph is not an ordinary one, it has this particularity of having highly carved decoration on its flat lid in addition to the decoration of the sides and the beautiful epigraphical frieze all showing special care in execution.

(2) This minbar made by order of Nūr al-Dīn is unique in the sense that it formed with the minbar one unit of precious wood-work, a peculiarity which warranted a full description by Ibn Ḡubair. This important monument is a first class document in the history of Islamic woodwork for its technique as well as its date and precise origin asserted by the signature of a team of artisans.

Four years after its erection, the minbar was transferred by Ṣalāḥ al-Dīn to the Aqsā Mosque at Jerusalem where it was recently destroyed by a fire (1967). Ibn Ḡubair, *The Travels of*, Trans. by R.J.C. Broadhurst (London 1952), pp. 262-3. Ibn Shihna, *Les Perles Choisies*, trad. de J. Sauvaget (Beirut 1933), p. 18. L.A. Mayer, *Islamic Woodcarvers and their Works* (Geneva 1952), pp. 63-4, pl. I, II. M. Van Berchem, *Materiaux pour un Corpus Inscriptionum Arabicorum*, 2<sup>e</sup> partie, *Syrie du Sud*, Jerusalem « Ville » (Le Caire 1920-1927), pl. XXIX, XXX. Ibid. Jerusalem « Haram » pp. 393 sq. E. Hertzfeld, *Materiaux pour un Corpus Inscriptionum Arabicorum*, 2<sup>e</sup> partie, *Syrie du Nord* (Le Caire, 1954-55), pp. 120-124 and pl. XLVI-XLVIII (for the *mihrāb*). M. Join-Lambert, *Jerusalem Israélite, Chrétienne, Musulmane* (Paris, 1956), pp. 110-111.

surmount façades of mosques such as the Mosque-Madrassa of Aşlam al-Silahdār<sup>(1)</sup> (see tables).

The arches of Baḥrī minbar entrances and canopies are generally similar, although not identical. Such arches seemed to have evolved during the Baḥrī period. The simple stilted arch on Lāğın portal (Pl. I, 3), and the pointed arch on that of Baktimūr drop in straight lines. On the minbar of al-Māridānī (Pl. IV, 3) the pointed arch has a slight return, evolving to an almost semi-circular horseshoe form on, for example, the portal of Sitt Miska (Pl. IV, 1). Finally the arches took on lobing as on the marble minbars (Pl. I, 1), and then became lobed square frames on the minbar of Taṭar (fig. 2 and Pl. I, 2) as well as Circassian examples (Pl. III).

Most of the (original) doors were reported missing at the time of the restoration work of the Comité. Those which they replaced were panelled in a manner different from the sides. Some of these doors contain original fragments, but there are no indications regarding the correct original locations of those fragments<sup>(2)</sup>. The doors of the minbar of Baktimūr were present at the time of restoration, but differ from the sides as well<sup>(3)</sup>, suggesting that other doors may also have markedly different in style from the sides. These differences also suggest that door-makers and inlayers worked independently within the same atelier where other parts of the minbar were produced under the supervision of a master. Such would certainly have been the case with wooden doors on marble minbars.

<sup>(1)</sup> Chahinda F. Karim, «The Mosque of Aşlam al-Silahdār», Diss. American University in Cairo, 1975, pp. 63-64. Crenelations being the most vulnerable part of the minbar, it is difficult to assert if these have retained their original form. However, pre-restoration photographs show that when restoration is undertaken, it usually follows the model of the remaining parts, and are not added by the Comité where they were completely missing.

<sup>(2)</sup> For example the back of the minbar doors of Lağın have the same pattern of the old shutters at the mosque of al-Maridānī a pair of which (from the collection of A. Baudry)

is reproduced by A. Rhoné, *L'Egypte à Petites Journées, Le Caire d'Autrefois*, Nouvelle édition (Paris, 1910), p. 48. Other shutters of this Mosque may have been available to the Comité when doors were made for the minbar.

<sup>(3)</sup> The minbar doors, like those of the entrance of the mosque, have their front sides decorated with a star pattern decoration (though the Mosque doors are in bronze applique) while their rear sides have the old pattern of oblong panels placed horizontally and vertically in alternate rows. The similarity was probably intended.

## SIDES

To determine the sides of a minbar, two straight lines of equal length were traced at right angles, thus defining the back and base of the minbar. A diagonal line linking the end-points of these two lines formed the hypotenuse (fig. 1 and

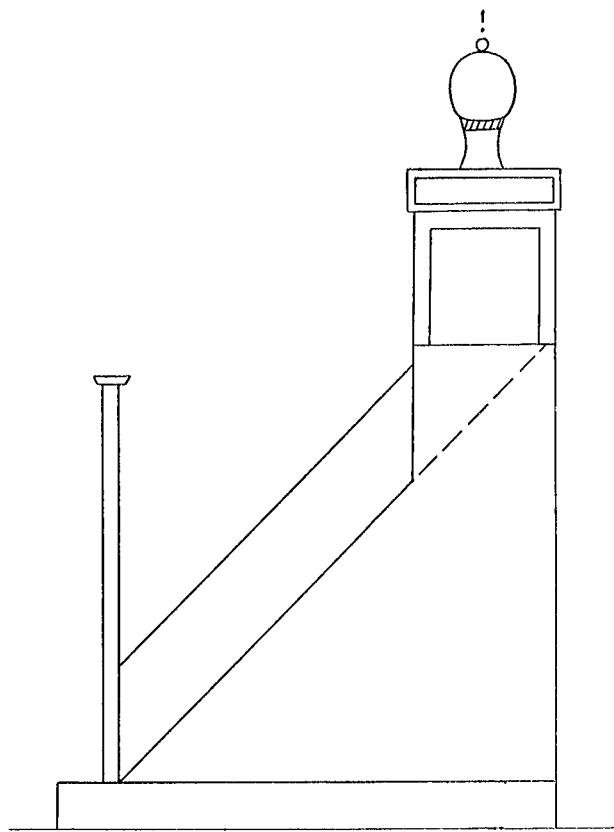


Fig. 1. — Minbar of the closed type.

Pl. I, 3; IV, 1-2 and 3). A ramp was added as well as a small triangle on the top end completing the throne sides. Sometimes, when the sides were large, the portal cuts off the lower part of the triangle (Pl. I, 3). The marble minbars differ in that the basic triangle corresponds with the staircase and balustrade only; the throne and passage below are then added (Pl. I, 1).

The sides of Baḥrī minbars are of two types: closed (Pl. I, 3; IV, 1-2 and 3; fig. 1) and with a rectangular passage through the rear, leaving only a triangular base and a small square panel over the opening to be decorated (Pl. I, 1 and fig. 2). The latter type is more characteristic of marble minbars, although two wooden minbars also have an open passage at the rear : Aşlam al-Silahdār and

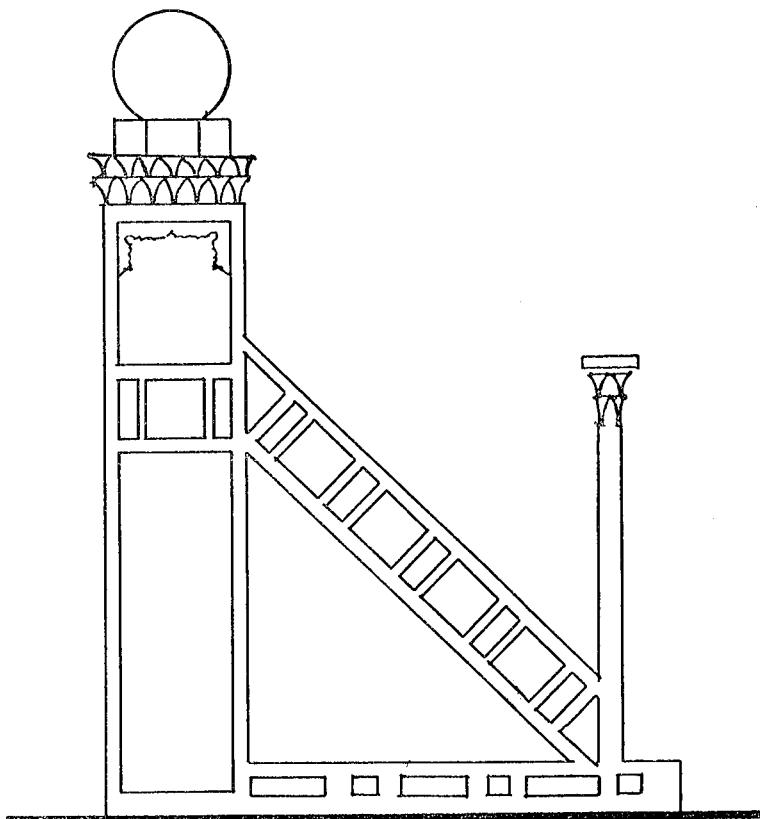


Fig. 2. — Minbar of Taṭar al-Ḥiġāziyya, opened type. (Sketch A. Yassin).

Taṭar al-Ḥiġāziyya (fig. 2). That of Aşlam is earlier than the earliest extant complete marble Cairene minbar, although earlier minbars with such an open passage are also found outside Egypt e.g., the wooden minbar of Qarasunqūr (699-709/1299-1309) at Aleppo<sup>(1)</sup>.

(1) Herzfeld, *Matériaux* ..., pl. LXVI d, and p. 168 for the dating. However it is most probable that the marble minbar of

al-Ḥatīrī which fragments are in the Islamic Museum (see tables) was similarly opened following in that other marble minbars.

Minbars with closed sides follow the type first seen at Qūṣ which radically differs from that at Hébron (484/1091)<sup>(1)</sup> and other early minbars such as that of Nūr al-Dīn. These were divided into a large triangle and a closed rectangle, with similar decoration. The Circassian Mamluks adopted this type of division for their minbars, but sub-divided the rectangle into a panel above and a door passage below (Pl. III).

Although the minbars of Sitt Miska (Pl. IV, 1) and Arḡūn al-Ismā‘īlī are of the closed type they have rear openings which cut the all-over pattern on the sides of the minbar. This awkward feature raises a problem as to whether the opening was cut at a later date. The Comité took two different approaches to this :

- 1) Three such openings, on the minbars of Baktimūr al-Ğūkandār, al-Māridānī (Pl. IV, 3), and Alğāy al-Yūsufī were filled in<sup>(2)</sup>.
- 2) Those of Sitt Miska, and Arḡūn (as mentioned above) were left open<sup>(3)</sup>.

The reasons provided by the Comité for closing the sides of the three minbars were that the frames of the openings were obviously later additions and that part of the missing strapwork of the minbar of Alğāy was found in the rubbish of the mosque and restored to its proper place<sup>(4)</sup>. Further evidence for the arbitrary openings can be observed on pre-restoration photographs of the minbar of Arḡūn where on one side only an additional awkward opening was made above the passage (end of note 3). A fourth and more conclusive reason might be found in an analysis of the minbar of Manğak al-Yūsufī<sup>(5)</sup> (Pl. IV, 2). This minbar, which is of the same type and design to those of Sitt Miska (Pl. IV, 1), and Arḡūn, had retained its closed sides, which were identical, except for minor

<sup>(1)</sup> Made by order of Badr al-Ğamali for the Mašhad of Ascalon (484/1091). The minbar was transferred to Hébron by Șalāh al-Dīn 583/1187. L.H. Vincent, E.H.J. Mackay and F.M. Abel, *Hébron; Le Haram al Halil Sépulcre des Patriarches* (Paris, 1923), pp. 219 sq. and pl. XXVI-XXVIII.

<sup>(2)</sup> Pre-restoration photographs are in Rhoné *Le Caire*, p. 430 for the minbar of Baktimūr. Comité, 1905, pl. IV for the minbar of al-

Māridānī. *Ibid.* 1914, pl. XXIX, XXX, and p. 18 for the minbar of Alğāy al-Yūsufī. Also in Creswell albums of photography, v. 22.

<sup>(3)</sup> Comité 1936-40, p. 134 and pl. XII, XIII pre-restoration photographs for the minbar of Sitt Miska. Those of the minbar of Arḡūn are in Creswell Album of photographs, v. 22.

<sup>(4)</sup> Comité 1905, p. 80. *Ibid.* 1914, p. 18.

<sup>(5)</sup> *Ibid.* 1941-45, pl. XIX, XX.

details of decoration, to the sides of the two other similar minbars, therefore suggesting that the three minbars might have originally been closed <sup>(1)</sup>. The reason for the openings is obscure since it is apparent that they were later additions. It was easy, however, to pierce a passage without diminishing the stability of the minbar since the skeletal framework includes a cross support that permits such an opening, as can be seen through some missing panels in the pre-restoration picture of Manğak's minbar (see note 5, p. 120). The openings were most probably made during the Circassian period as they were then generalized features and may have been due to the belief that in the time of the Prophet the minbar stood against the wall so that a sheep could pass through <sup>(2)</sup>.

### SOCLES

Low socles were added to minbars early in the Bahri period. The minbar of Lāğin has no socle, but a plinth to the portal carved in arabesques. The minbar of Baktimūr is also provided with a plinth to its portal, its decoration however, was enclosed within square and rectangular panels. In the minbar of al-Māridānī, the plinth, with alternating squares and rectangles, continues around the minbar and becomes a complete socle which protrudes in front of the portal to form a step (Pl. IV, 3). This type of decorated socle was adopted on most subsequent Bahri minbars and *kursī*. However, it was not, in principle, an innovation, as it appears on Fatimid and Ayyubid *tabūt* : for example, the *tabūt* of Sitt Ruqaiyya. The decoration of the panels, however, is modified; the Fatimid, Ayyubid, and early Mamluk decoration has foliated arabesques (Pl. V, 2) often combined with a pearled ribbon in geometrical designs, whereas the developed Bahri rectangles are geometrically subdivided into compartments (Pl. IV, 2).

### BALUSTRADES

Like Fatimid minbar balustrades, those of the Bahri period are formed of single oblong panels of *maṣrabiyya* with a standard arrangement of decorated cubes fitted crossways into turned and moulded cylinders, the component parts of the

<sup>(1)</sup> Similarity of design, decoration, and sizes of the three minbars of Manğak, Miska and Arğun suggest that ready made sides were to be rapidly erected at demand.

<sup>(2)</sup> Buḥārī, s.v. *Ṣalāt* B. 91.

*mašrabiyya* varying only in their size and decoration. This pattern differs slightly from the Fatimid type of alternate oval beads and discs<sup>(1)</sup>.

The one exception to the continuous ramp is the balustrade of the minbar of Taṭar al-Ḥiġāziyya (fig. 1 and Pl. I, 2) which is broken up into panels, a style which was to become popular during the Circassian period. Marble minbars also have uniform oblong panels carved either with a continuous foliated scroll frieze, as on the minbar of Āqsunqūr (Pl. I, 1), or with a central division as in the later minbar of Sultān Hasan.

#### CANOPIES AND DOMES

The canopy of the Baḥrī minbar is supported by slim columns of angular shafts held together by arched screens. These are surmounted by the canopy which is formed, in the early period, by rectangular panels, often carved with inscriptions (Pl. IV, 3). On later minbars (i.e., ca. 1340), the panels are narrowed to form moulded cornices on the arched screens. These evolved in the same way as the arches of minbar portals (see p. 117). The Baḥrī canopies, including those of marble, have no stalactite cornices, the only exceptions being those of Lāğin (see p. 115) and of Taṭar al-Ḥiġāziyya, which seems to be first extant example of duplicate stalactite cornices on portal and canopy, a feature adopted by the Circassians (fig. 1 and Pl. III).

The bulbous dome with finial and neckline socle crowning the canopy is indeed a very important features of the Baḥrī minbars, as it appears to be the first extant example of this form. Previously the domes of Syrian<sup>(2)</sup> and Egyptian minbars had been hemispherical and sometimes fluted. Anatolian Seljuk domes appear to have been conical<sup>(3)</sup>. North African minbars evidently had no domes<sup>(4)</sup>, and

<sup>(1)</sup> The original *mašrabiyya* of the minbar of Qūs was missing. For its restoration, the Comité has probably followed the model of the minbar of Hébron and the minbar of al-Afḍal 500/1106 at Mt. Sinai. Comité 1900, pl. IV. Rabino, *Le Monastère de Ste. Catherine au Mont Sinaï* (Le Caire, 1938), pp. 40-41, pl. XV.

<sup>(2)</sup> Herzfeld, *Matériaux*, pl. LXV b, CXXXIX a and b.

<sup>(3)</sup> Z. Oral, «Anadolu da Sana'at Değeri Olan Ahşap Minberler Kidabeleri ve Tarihaları», *Vakıflar Dergisi*, Sayı V, 23-29, includes plates.

<sup>(4)</sup> Terrasse, *l'Art*, pl. LXXIV, LXXVI.

no Iraqi or Persian minbar with a domed throne is known before that of Lāğin. Although the canopy of Lāğin's minbar (Pl. I, 3) seems to have been a fifteenth century restoration (see p. 115), the dome is probably original for the following reasons :

- 1) It is repeated on Baktimür's minbar (four years later) and all subsequent minbars <sup>(1)</sup>.
- 2) The marble dome on the minbar of Aqsunqür (Pl. I, 1) is bulbous and faceted in clear imitation of the wooden one (i.e. sheets of wood nailed on an octagonal skeleton).
- 3) The giant bulbous domes over the *fawwārā*, and the original one which was over the *qubba* of the mosque of Sultān Hasan <sup>(2)</sup> are unlikely to have been developed without earlier experimentation on a smaller scale.

Bulbous domes therefore seem to be a Cairene development and a characteristic feature of Mamluk minbars, although they became a familiar item as caps of minarets which in previous periods had fluted stilted domes turning to an almost hemispherical form on early Baḥrī minarets such as those on the complexes of Sālār and Sanğār (703/1303, Index n° 221), and on the *Hāngāh* of Baybars II (706-9/1306-9, Index n° 32).

The first occurrence of bulbous domes on minarets are those of the mosque of an-Nāṣir Muḥammad at the Citadel (718 and 735/1318 and 1335, Index n° 143). These stone domes have retained the fluting characteristic of the masonry domes

<sup>(1)</sup> Herz mentions a «support de bulbe» for the minbar of Qūṣūn (which implies that the dome was bulbous). The fragments of this minbar were sent to the Islamic Museum when the mosque was pulled down to allow the piercing of the Muḥammad Ali Bld. M. Herz, *Catalogue Raisonné des Monuments Exposés dans le Musée National de l'Art Arabe*, 2<sup>e</sup> éd. (Le Caire, 1906), pp. 155-56.

<sup>(2)</sup> Pietro della Valle who visited Egypt in 1616 describes the dome as «unique as it

commences narrow, then swells out, and then contracts to a point like the egg of a hen». Quotation by K.A.C. Creswell, «Brief Chronology of the Muhammadan Monuments of Egypt to AD 1517», *Bulletin de l'IFAO* du Caire, tome 16, p. 109. No foreigner could have given such a good description of an unfamiliar shape without having seen it. Della Valle, *Viaggi*, (Rome MDCL), p. 468.

of the period, but were made re-entrant at the base<sup>(1)</sup>. Reciprocal transfers of influence between carpenters and masons is suggested by the similarity between the contemporary domes of an-Nāṣir's minarets (Pl. IV, 4) and of the al-Māridānī minbar (Pl. IV, 3). The latter is bulbous and fluted as the an-Nāṣir minarets. It is supported by columns reminiscent of the *thalos* immediately below the domes of many minarets. Moreover, the dome is built up internally with brackets and niches supporting a shallow fluted rosette. This strong resemblance probably explains why the Comité choose to place an exact copy of the minbar of al-Māridānī in the Mosque of an-Nāṣir as part of their restoration work<sup>(2)</sup>.

The question arises as to whether minaret domes<sup>(3)</sup> were inspired by those of minbars or from Persian influence, as the decoration of an-Nāṣir stone minarets suggests. In attempting to answer this question I can only advance a number of observations. Those concerning the minbar domes have been mentioned above (p. 122-123). As for the domes of the minarets, Professor Creswell rightly remarks that up to the Timūrid period, Persian domes were simple structures, and that no (extant) example of the bulbous dome is met before that the Gūr-i-Mīr and the Bibī Khānūm. These are double domes and only their exterior shell is bulbous. Since it did not arise from constructional necessities, Creswell thinks that the feature is a copy of constructions in wood<sup>(4)</sup>. On the other hand, Dr. Meinecke has a valid argument in giving a Tabrīzī origin to the domes of an-Nāṣir. This

<sup>(1)</sup> Bourgoin, *Précis*, p. 1. P. Casanova, *Histoire et Description de la Citadelle du Caire* (Paris 1894), pp. 620-625. The bulbous domes have a horseshoe arch outline and may have sprung from the idea that since the dome follows the arch in semi-circular and pointed outline, why not the horseshoe ?

<sup>(2)</sup> Egypt, Wizārat al-Awqāf, *Mosques of Egypt from 21 H. (641) to 1365 H. (1946)*, (Cairo 1949), v. 1, p. 52.

<sup>(3)</sup> The smooth terminal bulbs were often restored for e.g. the minaret of al-Maridānī is rebuilt by the Comité after a model offering an analogy in form and style with the subsisting parts. *Comité*, 1905, pl. II, IV *Ibid.*, 1884, p. 9.

<sup>(4)</sup> K.A.C. Creswell, « The History and Evolution of the Dome in Persia », *Journal of the Royal Asiatic Society*, July 1914, pp. 694-697. However Creswell's arguments on the bulbous form of the Dome of the Great Mosque of Damascus is not convincing, especially that he based it on Ibn Ġubair description that clearly mentions a semi-spherical dome. The observant traveller would have certainly mentioned such a striking feature had he seen it. Creswell also discards the idea of an Indian origin to the bulbous dome in his article the « Origin of the swelling dome », the *Indian Antiquary*, v. LI, 1922, pp. 79-80.

argument is based on a miniature showing a model for such a dome, and the fact that both the decoration and architects were Persians<sup>(1)</sup>.

The domes of two marble minbars show a stylistic evolution. Both are carved on the exterior, but although the dome of Aqsunqūr is merely faceted and decorated with arabesques, that of Sultān Hasan has a more bulbous form with ribs and flutings meeting in festoon at the base. The interior dome of the former rises straight from the flat roof, while the latter has an elaborately faceted zone of transition leading up to it.

The socles of minbar domes vary in shape according to the profile of the dome. On early wooden minbars, they have slim tubelike or columned (al-Māridānī) forms, turning to bulky octagons or round shapes on later minbars. The marble socles show the same stylistic evolution as the domes; that of Aqsunqūr is a low curved octagon with the same decoration as the dome above, and that of Sultān Hasan has an elegant curved neckline form.

It is difficult to establish the initial appearance of crescent finials. They are seen on Fatimid domes : for example, on Sayyida Ruqaiyya's *mašhad* (527/1139, Index n° 273). However, such domes have all been restored and the present bronze finials may be part of these restoration works. But the smaller boat under a crescent on the dome of the Mausoleum of Imām al-Šāfi'i (608/1211 Index n° 280) seems to be original since al-Būṣīrī<sup>(2)</sup> (d. 697/1295) mentioned it at an early date; although it is not exactly a crescent finial, it is related in the sense of being a terminal point to the dome.

## INTERIOR

Little can be said of the interior structure of the minbars which follows, in width, the span of the portal and throne. The earliest minbars of Lāğin and Bakhtimūr had all the component parts of their interiors lavishly decorated, including the interior of the *mašrabiyya*, the steprisers, and the back of the portal, following the Qūṣ model. Refinement of details can be observed in that the angles of all

<sup>(1)</sup> Meinecke, «Die Mamelukischen Fayence-mosaik-decorationum : eine Warkstatte aus Tabriz in Cairo (1330-1350)», *Kunst des Orients*, 11 (1976-77), pp. 85-144.

<sup>(2)</sup> Al-Būṣīrī, quoted by 'Abd al-Wahhab, *Tārīh*, pp. 112-113. Maqrīzī, *al-Mawā'iz wa al-Itibār fī Dikr al-Hiṭāṭ, wa al-Āṭār*, V. II (Cairo, Bulaq, n.d.), pp. 462-63.

long planks were chamfered and carved. On later Bahri minbars, the ornamentation of the interior was either simplified or suppressed.

### LINKS

Bronze links occur on some minbars and take various shapes. On the minbar of Lāğin (Pl. I, 3), for example, they closely follow the angles of the corners, while along the diagonals below the balustrade they have staggered outlines curiously similar to splayed hinges.

« Links » have cusped edges and are sometimes carried out in pierced work. The only reference to « links » known to me is in Ġabartī<sup>(1)</sup> (1202/1787) who says that wooden pieces were attached by joints (tenon and mortise), and « links » (*ġurāb*) were nailed on to reinforce the structure, which was already supported by an inner framework. The sides had an additional supporting strapwork on the rear. The « links » are therefore not essential, since many are missing or originally absent on some minbars without the collapse of the construction; simple modern nails now sometimes take their place.

« Link » bands, or blank spaces on carved wood denoting their positions, may already be seen on Fatimid and Ayyubid *tabūt* and minbars; for example, on the *tābūt* from the Mašhad al-Husayn (549/1154), now in the Islamic museum (Inv. n° 15025). On the minbar of Hébron the spaces occupied by the absent links are plain areas in the carved script of the friezes, with the epigraphy being squeezed on half the space around the links<sup>(2)</sup>. This shows that the carvings were made after the spaces for links were marked, and that the carver had to manage with that area which was left to him. Plain spaces therefore show the exact outline of the original links.

### TECHNIQUES AND ORNAMENTS

Although wooden and marble minbars are similarly composed, they differ completely in technique and ornament. This is largely due to the different materials, which impose varying methods of work and different artisans.

<sup>(1)</sup> al-Ġabartī, *‘Aġā’b al-Āṭār fī al-Tarāġim wa al-Āḥbār* (Cairo, al-Šarafiyye, 1322 H.), Pt. II, pp. 171-72. Information given by

Laila Ibrahīm.

<sup>(2)</sup> Vincent, *Hébron : Le Haram*, pl. XXV-XXVIII.

## TECHNIQUES

There were certain standard elements in Cairene wooden minbars. These are held together by a framework of cross pieces forming a solid base for the steps, the throne, the entrance jambs, and the sides, with the balustrade forming an additional structural reinforcement, and a link, to the throne and portal. The strapwork of the sides has further supports at the rear, which are well reproduced by Bourgoin <sup>(1)</sup>. Domes and socles are formed of thin, rectangular wooden strips nailed on ribbed framework, (bulbous, octagonal or round) similar in composition to stalactites.

The closed sides of the Bahri minbars offer a larger area for decoration (fig. 1 and Pl. I, 3; Pl. IV, 2-3). The ornament of the sides is composed of narrow moulded frames forming a strapwork of star/polygon pattern known as *darb haj* in which are inserted small polygonal carved panels. The strapwork and panels are held together with mortise and tenon joints, « rainures et baguettes » (fig. 3). The short sticks forming the angles are fixed on a basic long stick known as *umm* (mother). Ibn Jubair calls the technique *ṣina'a qarbasīyya*, but it is known locally as *qanāt*-work, deriving from *qinanāt*, the component parts of the strapwork <sup>(2)</sup>.

*Qanāt*-work has advantages. It prevents warping resulting from change in temperature and humidity; the small panels are sufficiently loosely set in their frames so as to be able to expand or contract without injury to the whole. The older technique of square and rectangular paneling was technically adequate, but it did not permit the same flexibility, variety, and freedom of design and pattern. *Qanāt*-work, delicately carved and inlaid with fine woods and ivory, was considered a luxury since the throne (*sarīr*) of al-Malik an-Nāṣir Muḥammad in the palace on the Citadel was of *qanāt*-work with ebony and ivory inlay <sup>(3)</sup>. This contrasts strikingly with the Fatimid throne, described by Nāṣir-i-Ḥusraw, which had three gilt sides representing court scenes and inscriptions. It had also a balustrade in gold openwork, and three steps in silver at the rear of the throne <sup>(4)</sup>.

<sup>(1)</sup> Bourgoin, *Precis*, (Menuiserie), pl. 17, 67, 68, 77, 87.

<sup>(2)</sup> For Arabic technical terms, see glossary.

<sup>(3)</sup> Maqrīzī, *al-Mawā'iz*, V. 2, p. 206.

<sup>(4)</sup> Nāṣir-i-Ḥusraw, Quoted by D. Sourdel et J. Sourdel, *La Civilisation et l'Islam Classique* (Paris, 1968), p. 379.

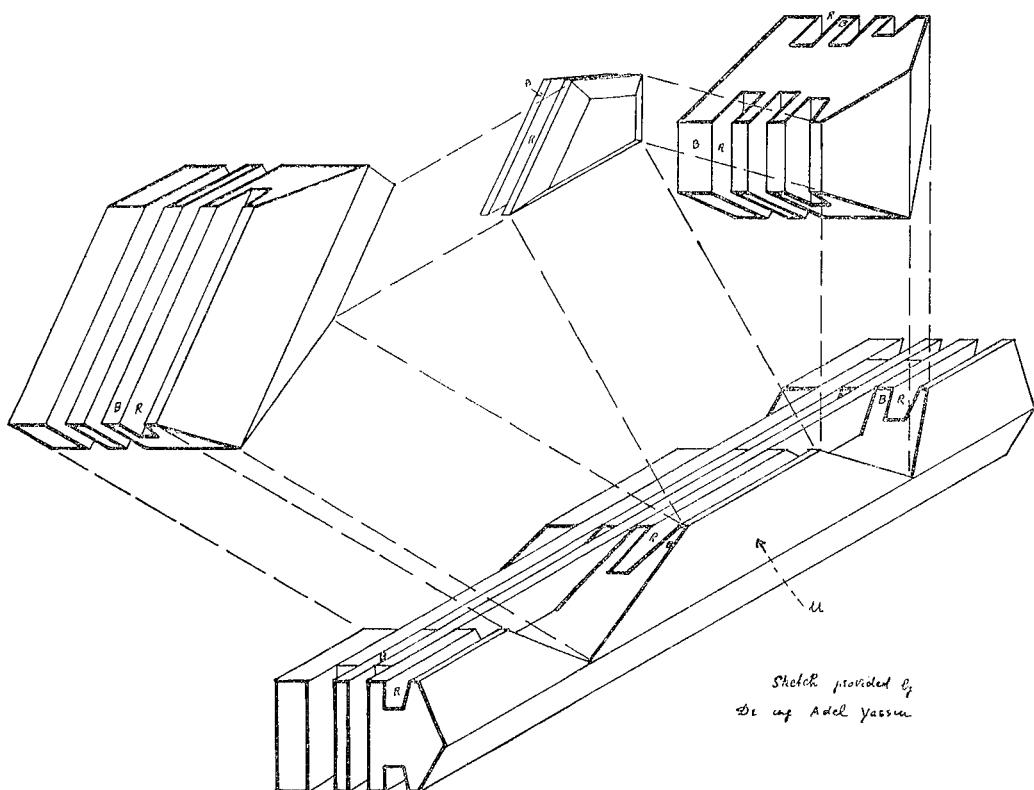


Fig. 3. — *Qanāt*-work showing tenon and mortise joints (baguettes et rainures).  
 R = Rainures (mortise). B = Baguettes (tenon dovetail). U = Umm.

An-Nāṣir Muḥammad's choice of *qanāt*-work for his *sarīr* shows that this work, beautifully executed, represented the height of Mamluk taste.

*Qanāt*-work already appears on the minbar of Badr al-Ğamalī at Hébron (note 1, p. 120). The first extant occurrences in Egypt are on the fronts of the *mihrābs* of Sitt Nafīsa (533-43/1138-48, Islamic Museum n° 421) and the Ruqaiyya (549-46/1154-60, Islamic Museum n° 446)<sup>(1)</sup>. The strapwork of the Bahri minbars

<sup>(1)</sup> Pauty, *Les Bois Sculptés jusqu'à l'Epoque Ayyubide*. Catalogue Général du Musée du Caire (Le Caire 1931), pl. LXXXI-LXXXII. In his survey of the geometrical patterns in Egypt, M. Keene has detected eight new designs

on the two *mihrabs*. M. Keene « Geometrical Art in Islam : a contribution to the Work of J. Bourgoin », Diss. American University in Cairo : 1971, p. 156.

shows a considerable development on Fatimid patterns. The six-pointed star and regular or elongated hexagon compounds of the Fatimid (fig. 4) period evolved into eight, twelve, and sixteen, pointed stars in more complex compositions

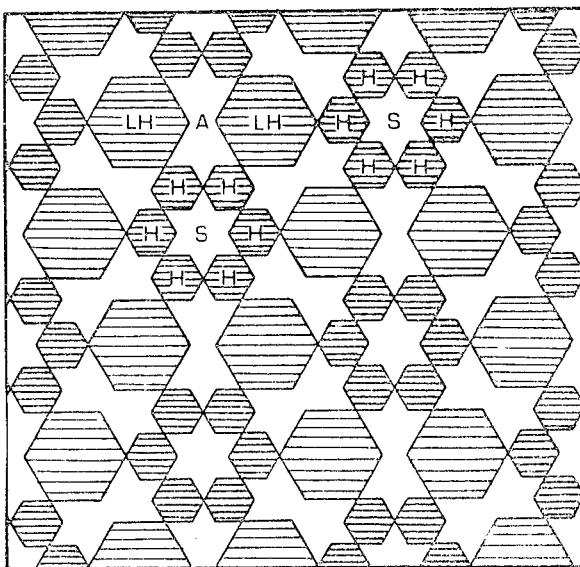


Fig. 4. — (Bourguin's pattern 25). Compound *tabaq*.  
 S = Central Star. H = Regular Hexagons.  
 Fillings around *tabaq*. LH = Large Hexagons  
 alternate with : A = Double Arrowheads.

known now in Egypt as *tabaq nağmî* (fig. 5 and Pl. VI, 3). In these compositions the regular or elongated hexagon has become an irregular pointed hexagon known as *kinda*. Between the *kinda* and the central star (*nağm*) / or cogwheel (*tirs*), small lozenges (*lūza*) were inserted. *Kinda* evidently developed in the Ayyubid period from the Fatimid model where it had at first a pentagonal form turning to a pointed hexagon later. On the *mihrāb* of Sitt Ruqaiyya as well as on the upper and lower panels of the doors of al-Şālih Talā'i in the Islamic Museum (inv. n° 1055)<sup>(1)</sup> the carved panels show the beginning of the composition

(1) Pauty, « Les Bois », pl. LXXXI, LXXXII for the *mihrāb*, and LXXXIX for the doors. Abdel-Wahhab, *Tārīh*, v. II, fig. 53 and 55

for the Imām *tābūt*, and fig. 56 for Um al-Sultan *tābūt* (see my pl. V, 1-2).

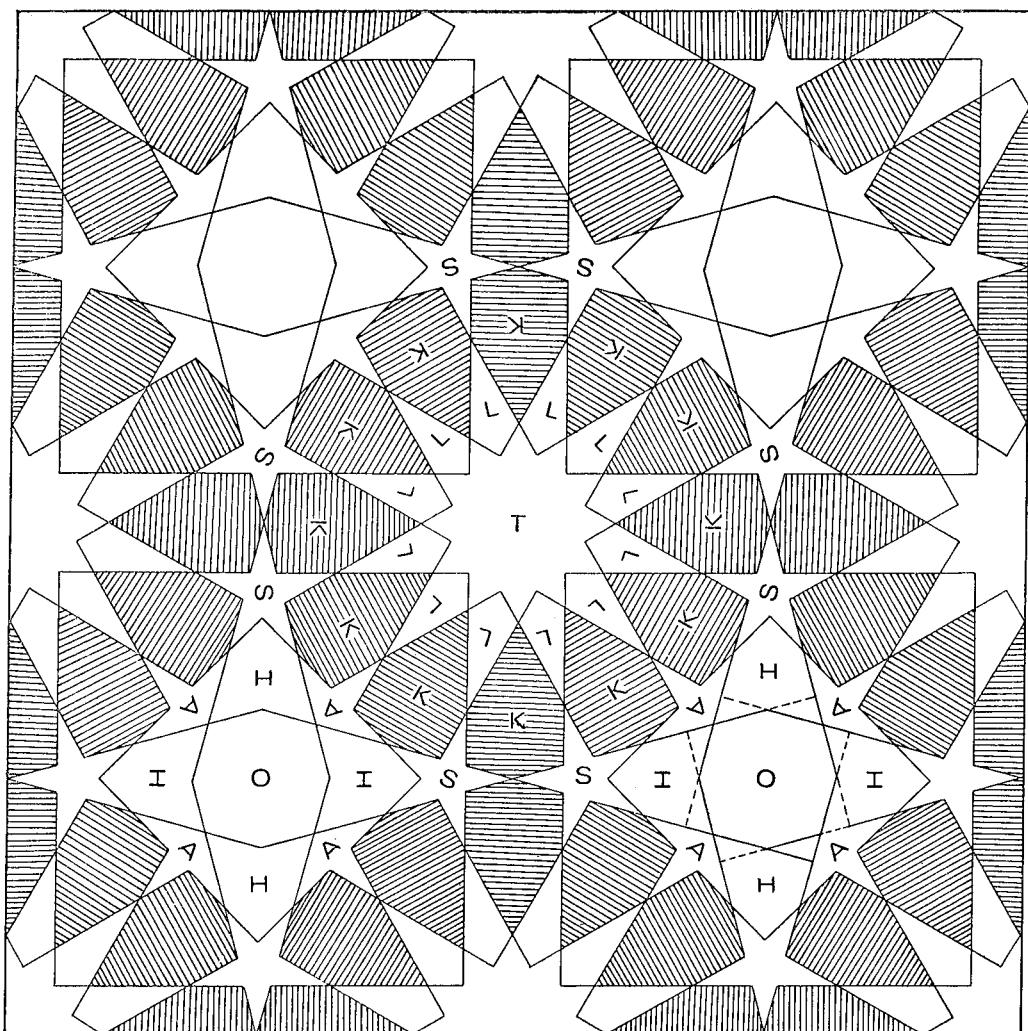


Fig. 5. — (Keene's pattern K 8). Complex *ṭabaq-nağmī*. T = *Tirs* (central star). K = *kinda*. L = *Loza*.

Fillings around *ṭabaq*. S = Five jointed Star.

Square filling between *ṭabaq*. O = Central Octagon. H = Irregular Hexagon. A = Arrowheads.

of the *ṭabaq nağmī*. On the *mihrāb*, the compound center is in the Fatimid style i.e., a six pointed star surrounded by regular hexagons. An extra line doubles the points of the star, and *lūza* are inserted between the teeth of this extra outline. On the doors, the regular hexagons around the star are suppressed giving, thus,

a twelve pointed *tirs* core between the teeth of which the *lūza* are inserted directly. The *kinda* in both patterns are pentagonal and distorted to fit the space. These two designs are repeated on the sides and the pyramidal top of the *tābūt* of Imām al-Šafi‘ī (574/1178, ind. n° 280, Pl. V, 1) but in *qanāt*-work. It is only on the later *tābūt* of Umm al-Malik al-Kāmil (608-1211, in the Mausoleum of the Imām (Pl. V, 2)) that some of the *kinda* are hexagonal (see note 1, p. 129). The perfect compound star pattern (*tabaq*), once established, persisted. However, no twelve-pointed star appeared before the eight-pointed star, and no sixteen-pointed preceeded the twelve.

On the Hébron minbar, the strapwork is formed of a large band of arabesque between two narrow frames. This strapwork is simply conceived and the overall design is obvious at a glance. On the Qūṣ minbar, such carved friezes still occur, but the frames are moulded and intersect continuously over the carved band making a pattern of lozenges and triangles difficult to trace<sup>(1)</sup>. On the fronts of the wooden *mīhrābs* of Sitt Nafissa and Ruqaiyya the arabesque band is suppressed and only the moulded frames are retained. This type of framing is simple and emphasizes the pattern and the small inserted panels. It was adopted in the subsequent works.

An important development in Baḥrī minbars is in the conformity of pattern and space. In Fatimid and even Ayyubid woodwork, the patterns were not planned for the spaces they were intended to occupy. For example, on the minbar of Hébron, the overall pattern is too large for the sides and, as at Qūṣ, the pattern is simply cut off upon reaching the frames. In the Ayyubid period, in spite of considerable decorative development, designs are still too large and the *tabaq* may be cut off above and below, as on the pyramidal top of the *tābūt* of Imām al-Šafi‘ī<sup>(2)</sup> (Pl. V, 1), and on the *tābūt* of Umm al-Malik al-Kāmil (Pl. V, 2)<sup>(3)</sup>. There, in addition, the *kinda* are distorted and squeezed into the restricted space. As Keene stated, the design with a separating eight-pointed star was never repeated<sup>(4)</sup>. The Ayyubid patterns were evidently experimental, and the twelve-pointed star patterns,

<sup>(1)</sup> G. Wiet, «Les Inscriptions du Mausolée Šafi‘ī». Extrait du *BIE* 1932-33, tome 15, p. 172; Pauty «Minbar», pp. 41-48, pl. II, V. Note that the pattern is the same in Hébron and Qūṣ minbars (fig. 4) only smaller on Qūṣ

with a double line version.

<sup>(2)</sup> ‘Abd el-Wahhab, *Tārīḥ*, pl. 53.

<sup>(3)</sup> *Ibid.*, v. II, pl. 56.

<sup>(4)</sup> Keene, «Geometric», pt. A. p. 160; 163-165 and n. 99. Pt. B. pattern K. 9.

comparatively simple. The *kinda* of these patterns are somehow distorted, and the axes of their motifs do not follow the central star radius, but have horizontal axes (Pl. V, 1). It is only on the extant minbar of Lāğin that we see in Egypt a regular, well balanced *qanāt* design, planned so as to fill exactly the place it was to occupy and terminating neatly within a frame (Pl. I, 3 and IV, 2-3)<sup>(1)</sup>.

The *mašrabiyya* technique, even more than *qanāt*-work, allows the use of the smallest pieces of wood. Moreover, it has a lacelike appearance. This is probably the reason for its great popularity during the Mamluk period. Methods still used in some ateliers demonstrate the antiquity of the technique<sup>(2)</sup>, although no work dated earlier than the Hébron minbar is known. In spite of its popularity, *mašrabiyya*-work seems to be an Egyptian development and rarely occurs elsewhere, and when it does, it is in the decoration of small panels.

The *mašrabiyya* is formed of round or cylindrical bits of turned wood combined with angular pieces shaped in cubes or other polyhedral forms. The polyhedral fragments were sawn, then filed to polish the angles. Rounded pieces were fitted together by inserting the protruding ends of the turned cylinders into cavities made on the axes of the polyhedra. The whole was fixed into a frame. By varying the number, shape, or disposition of the pieces, it was possible to obtain a large variety of designs. However, only one pattern was used for the balustrades of Bahri minbars; the decorated cubes fitted crossways into the moulded cylinders and differing from one another only in the size of the component pieces, the decoration of the cubes, and the mouldings of the cylinders.

#### CARVED PANELS AND FRIEZES

The principal carved motifs are in foliate or axial arabesques (see glossary). In the design, one must differentiate between the long friezes and the polygonal panels. In the long and narrow surfaces of the frames, the motifs formed of elongated leaves and stems are in succession following a straight or undulating

<sup>(1)</sup> Balanced patterns are seen earlier on extant doors where the design was easier to fit into a rectangle. See H. al-Batanouni « Catalogue of Mamluk Doors with Metal Revetments », Diss. American University at

Cairo, 1925.

<sup>(2)</sup> A picture of a « tourneur » in A.B. de Guerville, *La Nouvelle Egypte* (Paris 1905), p. 162 (back).

line forming thus an arabesque. They may be scrolls (Pl. I, 1 balustrade), or axial arabesques in rows. On the panels, the varied shapes offer more freedom in decoration and allow the juxtaposition of motifs which are generally disposed

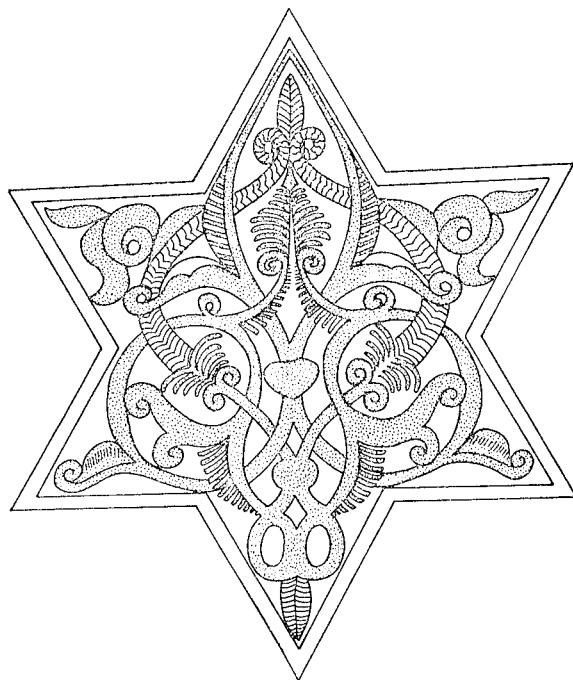


Fig. 6. — Axial arabesques.

symmetrically on both sides of a radial axis, and sometimes in free arrangements, foliate and geometrical (fig. 6-7 and Pl. VI, 1).

In the axial motifs, the arabesques are attached from time to time by medallions or pendants of various shapes to form, on the most important panels, a high relief with attached small palmettes, split palmettes, or scrolls in a lower relief (Pl. VI, 2). The curved lines of the arabesques, volutes and scrolls of the carvings deliberately contrast with the angular lines of the marquetry and strapwork.

Carving depends upon the quality of the wood used. The long friezes are of soft wood and the designs have, therefore, a thicker profile, whereas the hard-wood panel carving is neatly cut, and is executed on two planes. The primary

composition of the arabesque as it appears on Lāğin's and later minbars, is in strong relief and ornamental background executed in a less accentuated relief. This is particularly true of the two most important panels : the *tirs* and the *kinda*

where the axes of the motifs are no more horizontal but radial. The carving of the small wooden panels on the Bahri minbars was at its best at the beginning of the period and started to decline by the mid-fourteenth century, when motifs were simplified and prone to repetition. Some good wood-carving was done, but even the best work was inferior to that of the earlier period. Smaller *lūza* panels are generally carved on one plane, in champlevé, or else have a mosaic inlay of various materials, mainly ivory or bone. The use of ivory/bone, increased until it

replaced wood in *kinda* and *tirs*. The late Circassians preferred mosaic inlay for the decoration of these panels.

The Cairene Bahri wood carvers created new motifs as well as new combinations of the arabesques developed from the Fatimid and Ayyubid repertoires where the rich details, including the veined decoration of leaves, played an important role. The elongated leaves characteristic of Fatimid ornament, often placed so as to form cartouches enclosing other motifs, survived. The repertoire of palmettes and split palmettes also evolved from the Fatimid and Ayyubid models<sup>(1)</sup>. The new types are gracefully undulating with two or three lobes and notched bases (sometimes in two or three rows). There are also some feathery leaves in main panels. All have carved filling details either in veined or plant decoration (Pl. VI, 1 and fig. 6).

<sup>(1)</sup> Shafī'i, *Simple Calyx and Ornament in Islamic Art (a Study in Arabesque)*, (Paris, 1957, pl. 26 c, d, x, (and other Cairene palmettes of the period).



Fig. 7. — Free foliate arabesques.

The evolution of fourteenth century wood carving seems to be independent of ornament in other minor arts<sup>(1)</sup>. No chinoiserie, such as lotus blossoms, appeared, although these enjoyed wide popularity from an-Nāṣir Muḥammad's third reign (710/1310) and thereafter.

#### INLAY

One must differentiate between two techniques of inlay. The first consists of carving a groove or a shallow area in the wood into which is inserted another material of the size of the groove/area. This method is used, for example, in the marquetry lines bordering the small panels of the Bahri minbars and the *maṣrabiyya* of Lāḡīn's minbar, where the cubes were inserted with small carved ebony panels. The second technique relies on emptying the space to be decorated and inserting angular decorative pieces glued in that space, thereby forming a pattern. The tiny triangular spaces which are left empty are filled with a wood paste (Pl. VI, 2). It is possible to adapt this technique in order to economize on the use of expensive wood i.e., fixing narrow strips of valuable wood on the lesser wood, thereby forming frames which were filled with mosaic inlay. In this manner, the cheaper wood is concealed under the more valuable decorative materials, but this practice, as well as the simplified mosaic technique known as *zarnashān*<sup>(2)</sup>, were used in later periods in Egypt. The Fatimid pieces in the Islamic Museum provide examples of both techniques but the mosaic samples seem to be household furniture<sup>(3)</sup>. No mosaic inlay is seen on the Fatimid *mihrābs* or Ayyubid *tābūt*. A single line of marquetry appears on the doors of Qala'ūn (683-4/1284-5) in the Islamic Museum (Inv. n° 2335) and on the contemporary *tābūt* of al-Rifa'i (d. 690/1291)<sup>(4)</sup>. This is the first time that we see marquetry used on large pieces in Egypt. But Ibn Ğubair mentions fine beautiful carvings and inlays on the *mihrāb*-minbar of Nūr

(1) *Ibid.*, p. 16.

(2) Instead of small pieces to be individually glued in patterns, artisans assembled long strips of triangular pieces to which metal rods were added and all glued together to form a design within an octagonal outline. The tubelike pieces thus obtained was sown in ready-made patterns that were glued one next

to the other. The cavities in between were filled with wood paste. The information was given by Ḥāgg Ahmad Yūsuf.

(3) U.A.R. Ministry of Culture, *Exhibition of Islamic Art in Egypt, 969-1517 A.D.* (Cairo, April 1969), pl. 40.

(4) K.A.C. Creswell, *Early Muslim Architecture* (Oxford, 1932-40, II, p. 222).

al-Dīn (564/1168); this can be seen in pictures of the minbar<sup>(1)</sup>. The mosaic inlays of these (*lūza*) are similar to those on Bahri minbars, and may show the influence of Syrian on Egyptian woodwork of the period. On Lāğin's minbar, the marquetry is confined to double fillets of light wood bordering the panels and emphasizing their outlines. The *lūza* have a mosaic inlay of various colours and textures including ebony and ivory/bone (Pl. VI, 2). Ivory and coloured woods gradually come to play a larger role in the decoration of subsequent minbars. To the fillets were added narrow carved bands of ivory; and small ivory panels replaced the wooden ones for *lūza*, five-pointed stars, or quarter-stars (Pl. IV, 1-2 and 3). Inlay also replaced mouldings in the *qinanāt* of Olchy/Algāy al-Yūsufī (774/1375). However, in the Bahri period marquetry and mosaic inlay always remained subordinate to wood carving on minbars. The *kinda* on the sides of the throne of the minbar of Taṭar al-Hiġāziyya are in ivory/bone carved like wood. This is the first extant eg.<sup>(2)</sup> and the new trend was followed by the Circassians; by that time the wooden panels had become merely shells to contain smaller panels of carved ivory/bone, eg., the minbar of Qāytbāy in the *Qarāfā* (879-1474). In the Circassian period plain ivory/bone *kinda* were also used in combination with inlaid mosaic of various textures which gradually took over as the main part of the decoration, in the late period.

#### TECHNIQUE AND DECORATION OF MARBLE MINBARS

The two extant marble minbars and one fragment display three quite different styles. The reconstructed fragments of the al-Ḥaṭīrī (737/1336) show a pattern based on a twelve-pointed star with curved outlines. Each part is sunk in the marble and inserted with coloured stones, traces of which are still in place.

<sup>(1)</sup> Ibn Ġubair, *Travels* pp. 262-3. Also clearly seen in Join-Lambert *Jerusalem*, pp. 110-11.

<sup>(2)</sup> The sides of the Taṭar minbar are decorated differently from other Bahri minbars. It is not a strapwork, but alternate rectangular

and square panels (divided diagonally in two under the balustrade). Square ornaments are carved in the wood as *tabaq* and ivory/bone *kinda* are inlaid in the wood. The carvings are all in champlevé and not on two planes as on other Bahri minbars.

The decoration of the sides of the minbar of Aqsunqūr (748/1347, Pl. I, 1) appears more characteristic of Mamluk marble mosaic as used on walls and floors. It has a geometrical star pattern design divided diagonally in two, and forming, thus, the triangular sides of the minbar.

The Sultān Ḥasan's minbar (757-64/1356-63) bears traces of painted decoration. A study of these shows them to be of two successive periods, but always set in roundels.

Other characteristic elements of the marble minbars include carvings of various types such as the mouldings, particularly the frames of the triangles; the carving of the stalactites on the portals; the flutings on the dome of Sultān Ḥasan's minbar and the shaping of its curved socle; the shallow arabesque carvings on the dome and canopy of Aqsunqūr's minbar and the high relief carving as on its balustrade.

#### POLYCHROME PAINTING

Polychrome painted decoration occurs on both wooden and marble minbars. The exquisite carvings of the *mihrāb* of Ruqaiyya in the Islamic Museum (n° 446) bear traces of painting on the *qanāt*-work, but Pauty believes that the painting is not original<sup>(1)</sup>. The Ayyubid *tābūt* were apparently not painted, and there are no traces of polychrome painting on the sides of the Mamluk minbars except for the minbar of Sultān Ḥasan, which is marble. But friezes, spandrels, domes and socles, as well as the canopies and portals, all in soft wood, were painted, as seen on the Minbar of al-Māridānī (Pl. II, 1).

As the Mamluks came to appreciate *qanāt*-work for itself, the quality and colours of various woods were enough to assure rich effects of contrast. Some panels were in two or more envelopes of different woods as in the *kinda* of the al-Māridānī minbar. Sometimes panels of alternate *tabaq* are of two shades of wood for contrast eg., on the minbar of Lāğin. Already by the time of the minbar of Nūr al-Dīn, inlay had begun to enhance the *qanāt*-work with ivory and coloured wood, while painting was used only for the decoration of other parts of the minbar.

<sup>(1)</sup> Pauty, « Les Bois », p. 67.

TABLES

Name	Date	Situ	Number	Material	Type	Present condition
Husām al-Dīn Lāğın	696/1296	Mosque of Ibn Țūlūn	Index N° 220	Wood	Closed sides	restored
Baktimür al-ğūkandār	699/1300	Mosque of al-Şāliḥ Țalā'ī	Index N° 116	Wood	Closed sides	restored
Qūşūn	729/1329-30	Islamic Museum	Inventory N° 1092	Wood	Closed sides	fragment
al-Hatīrī	737/1337	Islamic Museum	Inventory N° 2983	Marble	?	fragment
Altunbuğā al-Māridānī	740/1339	Mosque of al-Māridānī	Index N° 12	Wood	Closed sides	restored
Sitt Miska/Hadaq	740/1339-40	Mosque of Sitt Miska/Hadaq	Index N° 252	Wood	Closed sides (rear opening kept)	restored
Aslām al-Bahā'ī al-Şīlahdār	745-6/1344-5	Mosque of Aslām	Index N° 112	Wood	Passage under throne	restored
Argūn al-İsmā'īlī	748/1347	Mosque of Argūn	Index N° 253	Wood	Closed side (rear opening kept)	restored
Āqsunqur	748/1347	Mosque of Āqsunqur	Index N° 123	Marble	Passage under throne	restored
Maṅgak al-Yūsufī	750/1349	Mosque of Maṅgak	Index N° 138	Wood	Closed sides	restored
Sultān Ḥasan	757-64 / 1356-63	Mosque-Madrasa of Sultān Ḥasan	Index N° 133	Marble	Passage under throne	restored
Tatar al-Hiğāzīyya	761/1360	Islamic Museum	Index N° 7031	Wood	Passage under throne	restored
Algāy/Olşay al-Yūsufī	774/1360	Mosque of Algāy	Index N° 131	Wood	Closed sides	restored

## GLOSSARY

*Axial Arabesque* : A foliate stem composition springing from one base and forming volutes vertically symmetrical around a central axis (fig. 6 and Pl. VI, 1).

*Arrowhead* : A three pointed form used to fill void spaces around the *tabaq*.

*Darb Haït* : Arabic term for strapwork.

*Foliate Arabesque* : A line, combined with palmettes and split palmettes, starting at one point and interlacing like the stem of a vine tree (fig. 7 and Pl. I, 1, balustrade).

*Kinda* : A pointed hexagon and component part of a *tabaq* (see *tabaq* and fig. 5).

*Lūza* (almond) : Elongated lozenge and component part of a *tabaq* (see *tabaq*).

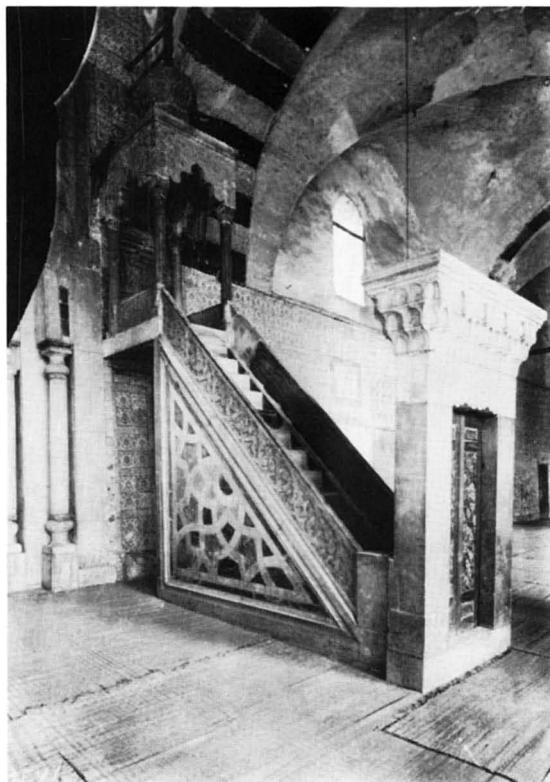
*Qinanāt* : Moulded or decorated sticks of various length that form the component units of the *qanāt* work (see *qanāt*).

*Qanāt-work* : A geometrical strapwork formed by decorated narrow sticks (*qinanāt*) assembled together by mortise and tenon joints « rainures et baguettes » the short sticks forming the angles are fixed on a basic long stick known as ‘umm’ (mother). The strapwork forms polygonal patterns, like frames, which are filled with decorated small panels (fig. 3).

*Qarbasiyya* : Alternative term used by Ibn Ġubair as the Syrian word for *qanāt* work.

*Tabaq-Naġmī* : The literal translation is « starred platter ». This is a complex geometrical composition based on a central core known as *naġm* (star) or *tirs* (cogwheel). — The latter is preferably used by technicians — Between the points of the star are inserted elongated lozenges (*lūza*) extending the tips of the star. Pointed hexagons (*kinda*) are placed with points inwards as to close the composition in a regular large plate form (*tabaq*) (see fig. 5 and Pl. VI, 3).

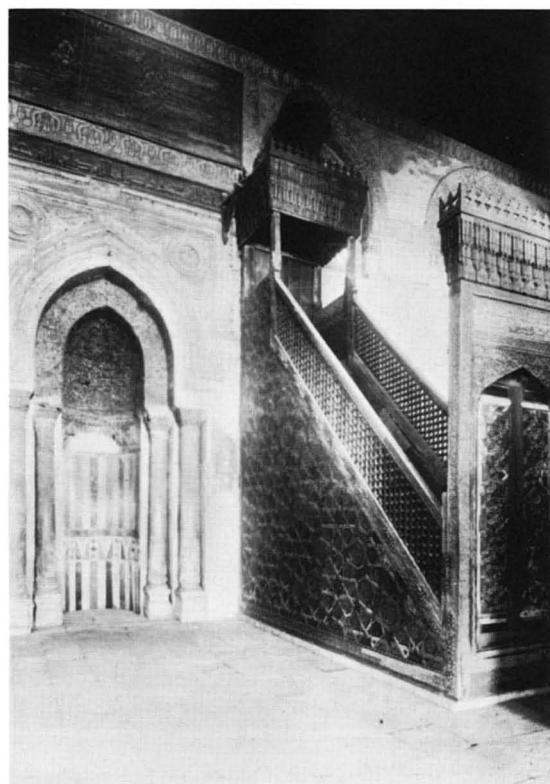
*Tirs* (cogwheel) alternative term for *naġm* (see *tabaq naġmī*).



1. — Minbar of Aqsunqūr (photo *Comité*).



2. — Top of the minbar of Taṭar al-Hiġāziyya.



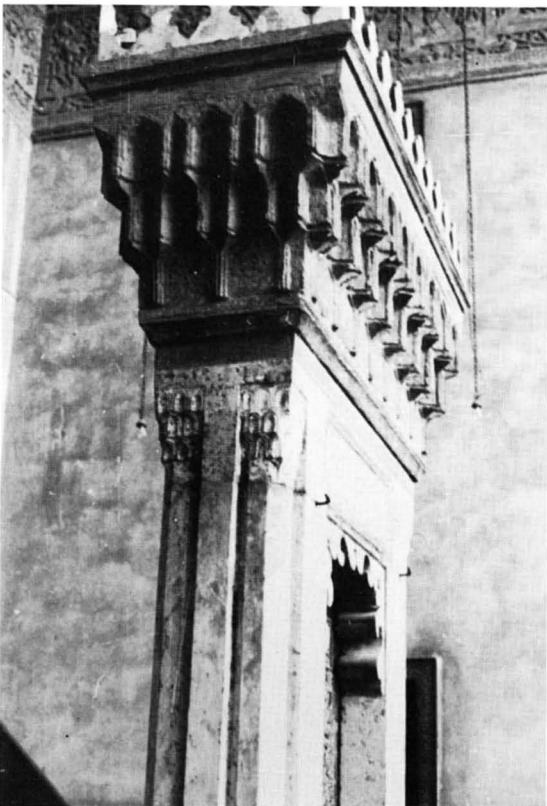
3. — Minbar of Lāġin.



4. — Top of Lāġin minbar and stalactites of the dome above (photo Creswell).



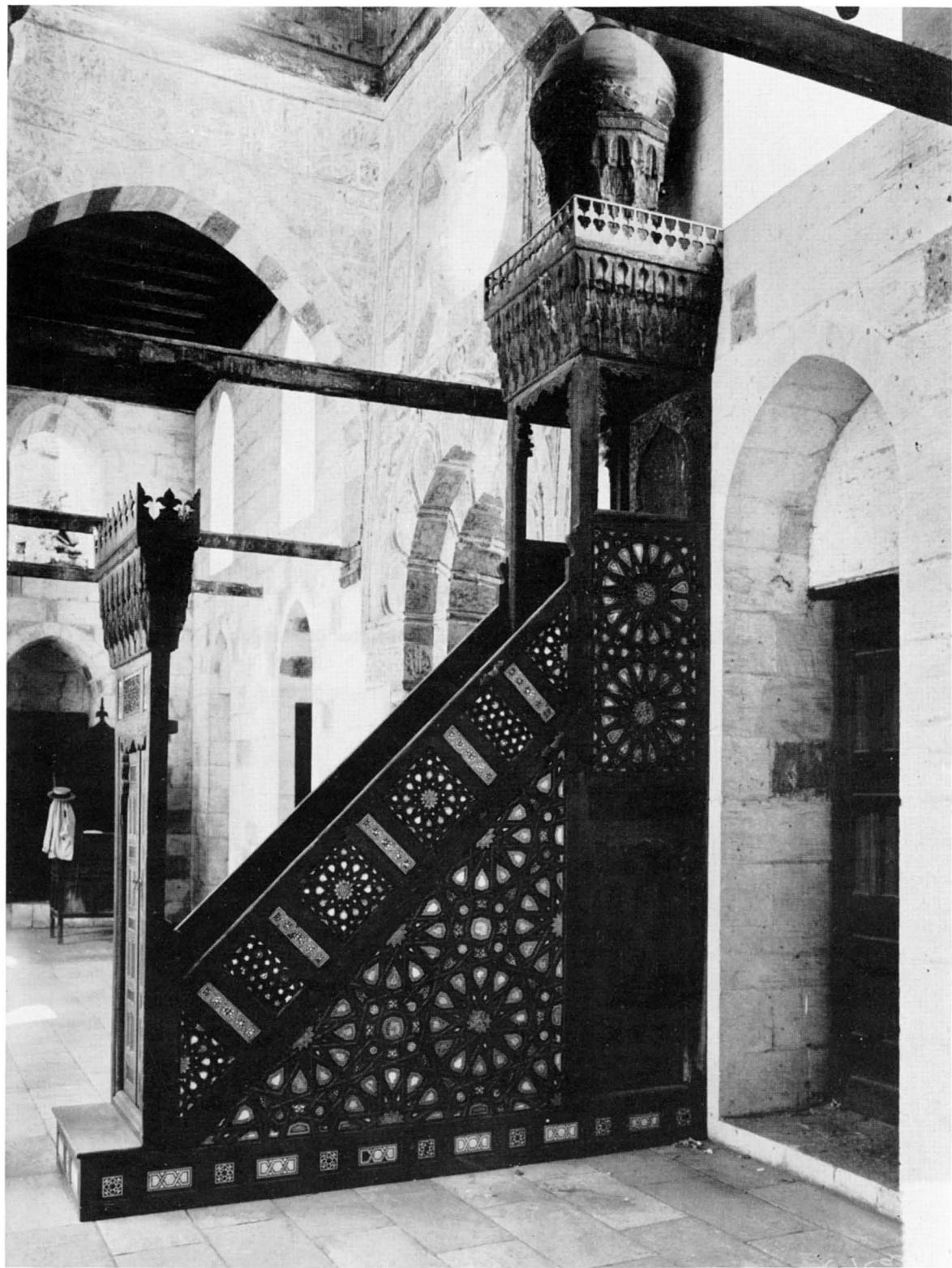
1. — Columns supporting the canopy of al-Māridānī minbar.



2. — The portal of the minbar of Sultān Ḥasan.



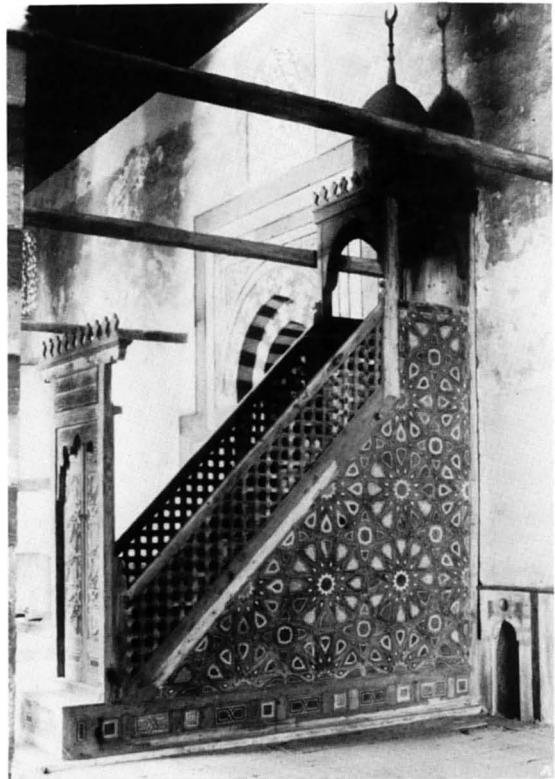
3. — Side of the *tābūt* of Ṣārgatmīš.



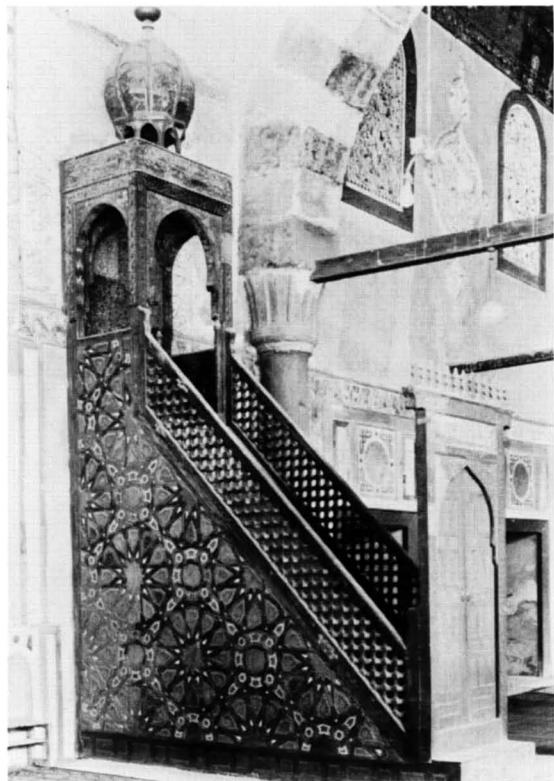
Typical Circassian minbar of Qādī Yahia al-Qassaniyya (photo Creswell).



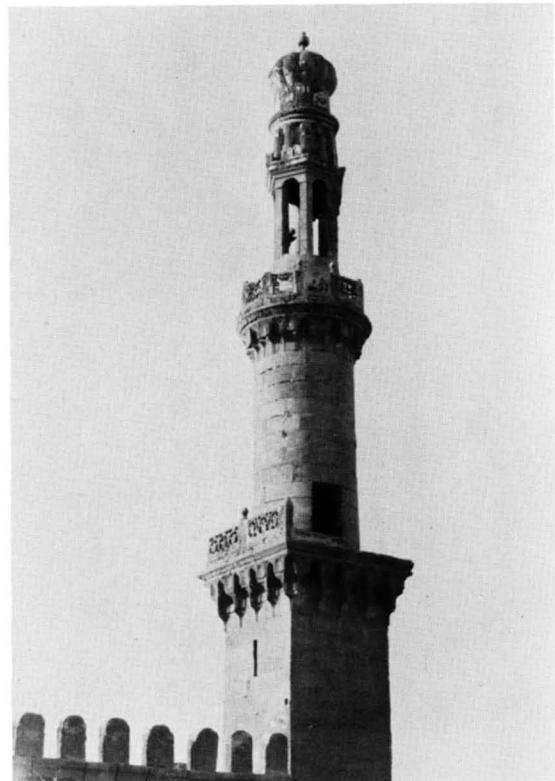
1. — Minbar of Sitt Miska (photo *Comité*).



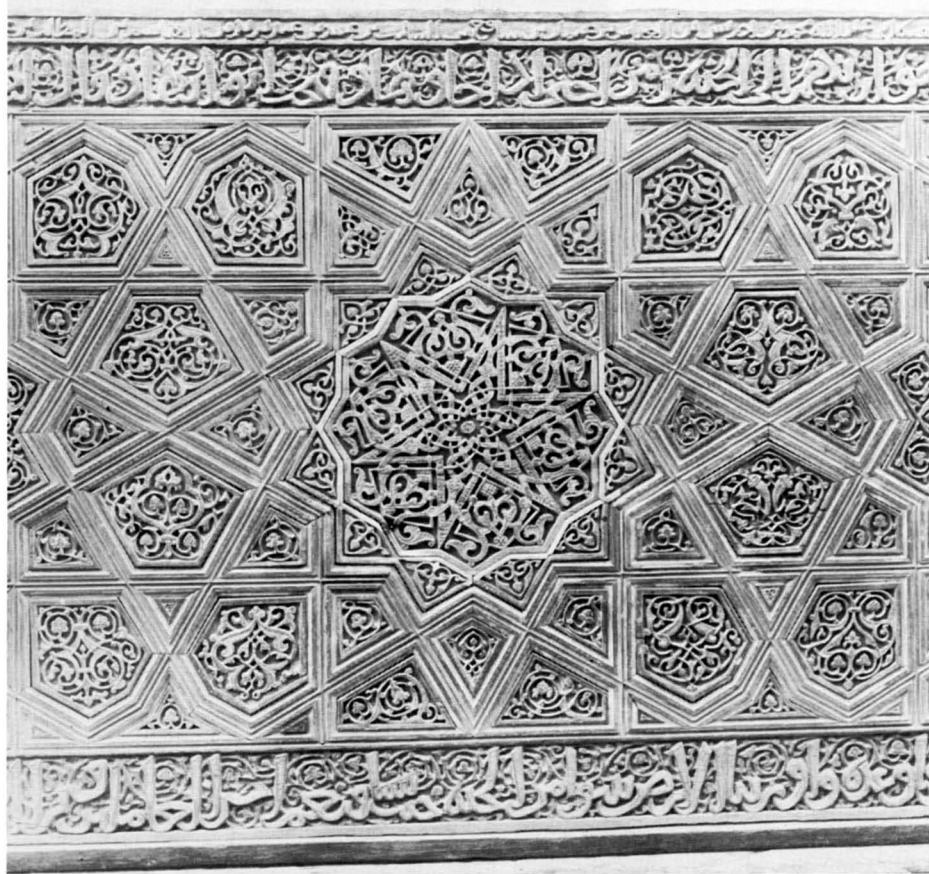
2. — Minbar of Mangak al-Yusufi (photo *Comité*).



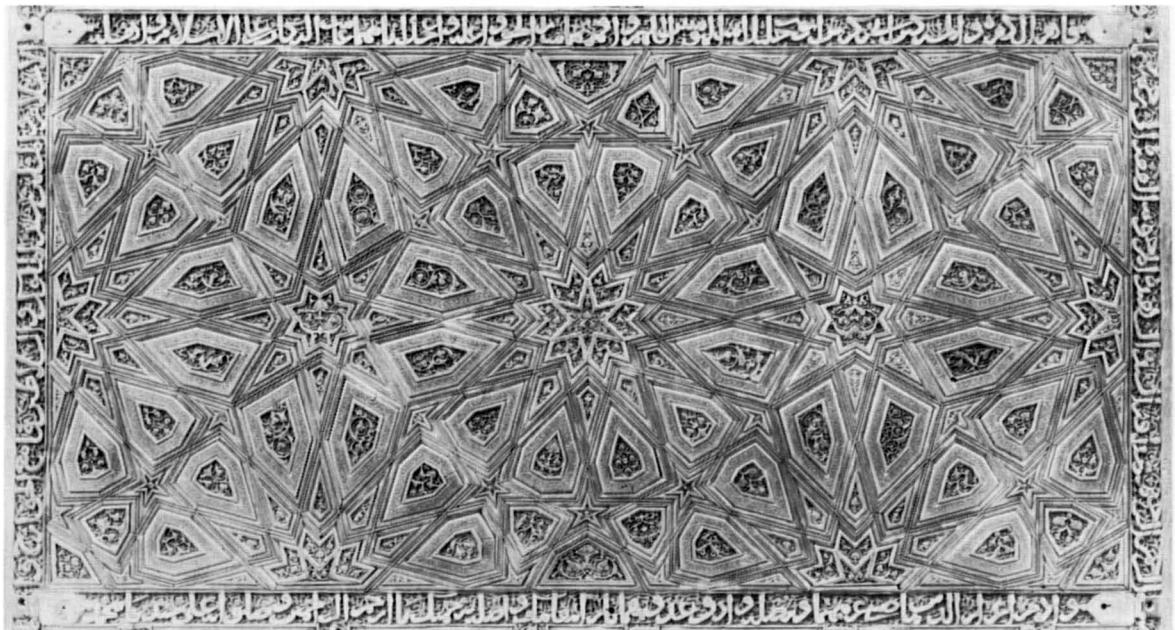
3. — Minbar of al-Māridānī.



4. — Cap of minaret of the Mosque of al-Nāṣir Muḥammad at the Citadel (photo Creswell).

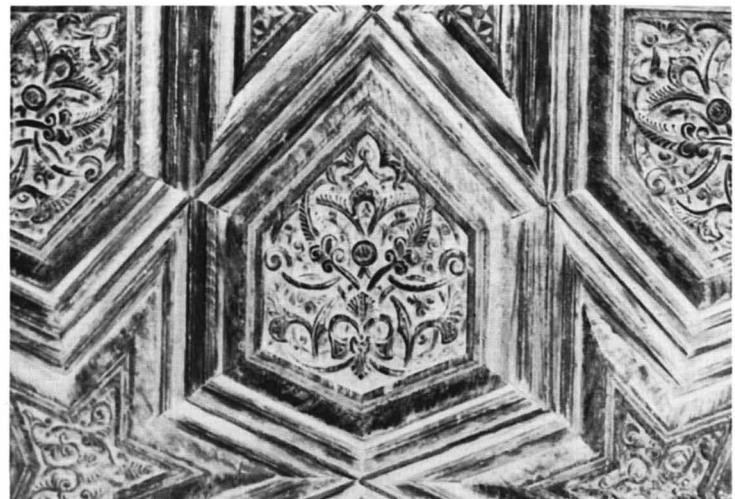


1. — Strapwork of the pyramidal top of Imām al-Šafī'i *tābūt* (photo *Comité*).

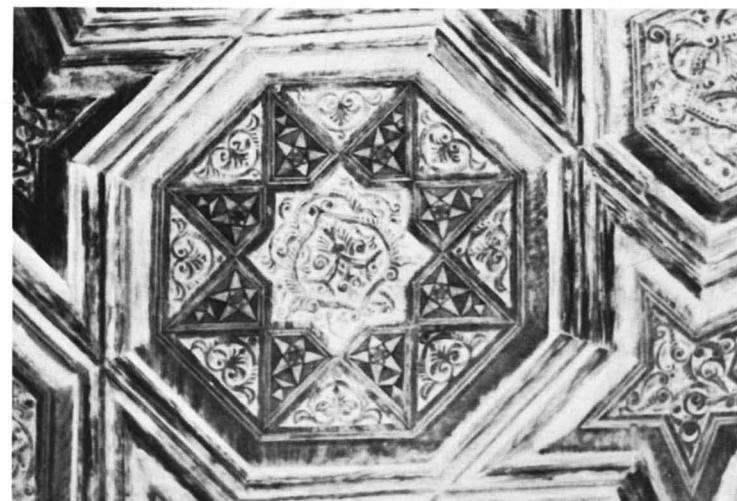


2. — Strapwork of the top of Umm al-Malik al-Kāmil *tābūt* (photo *Comité*).

1. — Carved panel from Lāğin minbar.



2. — Inlaid panel from Lāğin minbar.



3. — *Qanāt* work of the minbar of Manğak al-Yūsufī.

