The technique of leather filigree work is an ancient one; it was known to the Copts and has been found on binding fragments from Turfan dating from the eighth and ninth centuries. Within the Mamluk realm, leather filigree makes its appearance on late-fourteenth-century bindings where, placed on a textile backing, it was used to decorate covers. It then seems to have been discontinued and reappears on fine or “extra” bindings at the end of the fifteenth century, during the reign of Sultan Qaytbay (1468–96), when it is used for the decoration of covers and doublures; this use continues until the end of the Mamluk sultanate in 1516.

In the later Mamluk period, such filigree work closely follows the style and techniques of filigree doublures produced for Sultan Ahmad Jalayir, who ruled in Baghdad and Tabriz between 1382 and 1410. The doublures of the Divān of Sultan Ahmad Jalayir, dated to 1407, represent the earliest example of this type. On this ruler’s demise, his calligraphers, binders, and illuminators went on to find employment with the Timurid courts, where leather filigree was used extensively for the doublures of bindings—in particular those produced at the court of Iskandar Sultan in Shiraz (1395–99, 1409–14) and Sultan Baysunqur in Herat (1399–1433). Associated with the technique of leather filigree in the Timurid period is the use of polychromy to highlight segments of the patterns and of increased tooling in gold.

Until recently, in much of the literature, the invention of filigree work was attributed to Master Qivam al-Din, a bookbinder at Baysunqur’s court in Herat. This assumption resulted from the translation of the word munabbāt as “filigree” in Dust Muhammad’s preface to Qadi Ahmad’s Gulistān-i Hunar, written in 1544, which mentions that Qivam al-Din had been brought from Tabriz to the atelier of Baysunqur in Herat and charged with the task of preparing a bookbinding in the style of those made at the court of Sultan Ahmad Jalayir. The term munabbātkārī was interpreted as “filigree work”; however, recent exploration of the meaning has suggested that, in view of the existence of filigree before this period and the meaning of munabbāt as “relief work” in its association with metalwork, the term must refer to the technique of pressure molding, which was first used on the cover of the Divān of Sultan Ahmad Jalayir.

A relationship can also be discerned between the developments in Ottoman binding of the fifteenth century and the filigree bindings of the later Mamluk period. Filigree work in the Shirazi style occurs on the doublures of Ottoman bindings before the 1460s; a binding of this type is usually distinguished by an oval centerpiece filled with arabesques and framed by a floral border on a blue and gold ground. After this period, what Raby and Tanndæ term the “Fatih style” appears on bindings produced for Mehmed II that draw on motifs occurring in Timurid work of the first half of the fifteenth century. The filigree doublures of this period are made up of borderless lobed centerpieces with what Raby and Tanndæ describe as “sinuous and prehensile arabesques” on gold grounds.

The filigree technique then passed into the European binders’ repertoire and was first used for the doublures of Italian bindings, the earliest dated examples being the Marconova and Bruni codices of 1465, probably produced in Bologna. According to Hobson, the segmented borders and corner motifs used on these bindings suggest Mamluk influence. However, both these covers employ the cloud collar profile that appears on Ottoman bindings before the 1450s and does not appear on Mamluk bindings until the middle of the fifteenth century, so this may suggest Ottoman, rather than Mamluk, influence.

One of the earliest Mamluk examples published to date that uses filigree for the outer covers is a binding that contains a manuscript dated to 1336 and most probably produced in Damascus. The manuscript is entitled Manāzil al-abbāb wa-manāzīh al-abbāb; it was copied by Hasan b. Yusuf b. Ibrahim al-Ansari, sāhib divān al-inshā’ bi-Shām.
The date of 1336 has to be treated with some caution, as the binding has been repaired at the spine and edges, which may indicate rebinding. The cover is blind tooled overall with spiraling palmettes, and gold is used sparingly for the simple chain border, corner pieces, and outline of the central medallion, which lies on a ground of pale blue silk. However, there are elements that may support this early date: the doublure is blind tooled with a variety of small stamps, and the corner pieces are simple quarters with densely tooled infill rather than the repeat filigree corner pieces that usually occur on later bindings. The profile of the central medallion can best be described as a lobed lozenge with small pendant escutcheons, which appear more in keeping with those used on Mamluk bindings of the mid-fifteenth century. However, this binding can be compared to covers without filigree produced in Bursa before 1453 and to the overall tooled palmettes that appear on the flaps of the 1306–8 and 1338 Ilkhanid Qur’ans. To confuse the matter even further, a comparison may also be drawn with the binding of a Qur’an now in the Bibliothèque Nationale that carries a waqf inscription of Sultan Qaytbay; it has a lobed medallion cut in filigree on a blue silk background. However, the cusped corner pieces are also in filigree and more in keeping with a later date.

Filigree bindings first begin to appear in some numbers in Cairo towards the end of the fourteenth century. During this period, filigree was used for the covers, which had a textile backing (fig. 1); the doublures were usually tooled, block printed, or made of blue or green silk. They do not bear any resemblance to Iranian filigree bindings of the period and seem to be an attempt to transfer the technique of filigree to the rosette-with-pendant type that had dominated Mamluk binding from the middle of the fourteenth century, the rosettes of which were filled with geometric shapes made up of stars, octagons, and squares. Examples include a widely published series of juz’ of a Qur’an made for the amir Aytimish al-Bajasi (d. 1400) and endowed to his madrasa in Tripoli (fig. 2). A binding of the same type, published by Raby and Tanndæ and now in Finland, was made for the Sultan Faraj b. Barquq (r. 1399–1412) and donated to his madrasa.

The earliest known filigree binding of this type contains a manuscript dated to 1391—a copy of the al-Shifº fi ta’rif huqºq al-Mustafº copied by Ahmad b. Muhammad al-Balisi (fig. 3). The central panel of the binding is tooled with large floral forms outlined in gold. These floral forms also appear on Ottoman bindings of the 1460s and later, albeit exhibiting more refined workmanship, on the bindings associated with the period.
of Qaytbay.\textsuperscript{17} The central medallion lies on a ground of green silk, and the doublures are likewise of textured green silk, also found on a loose cover with filigree work in Chicago.\textsuperscript{18} There are three other bindings that differ only slightly from that described above; on them the floral background of the central panel has been replaced by blind-tooled knots. Two of these are \textit{juz} of Qur’ans with identical bindings.\textsuperscript{19} The binding of the \textit{juz} in the Bibliothèque Nationale carries a \textit{waqf} inscription to Sultan Barquq (r. 1382–99).

After this period the technique of filigree seems to have been discontinued, but it reappears on bindings produced during the reign of the Sultan Qaytbay. The covers of these bindings have central lobed lozenge medallions with cusped corner pieces, usually outlined in gold, with filigree arabesques on colored pasteboard backgrounds replacing the textile backing that had previously been used. This provided a firmer base to fix the filigree and allowed for the use of several colors to highlight different parts of the pattern.

One of the earliest covers in this style can be dated to 1484 by its manuscript, an \textit{al-Durra al-mudiyya wa ‘l-
‘arūs al-mardīyya copied by Qasim al-Hanafi for Qaytbay’s library. The binding (fig. 4) is of red leather and has a lobed filigree central medallion filled with small arabesques outlined in gold. It is segmented into small cartouches on alternating blue and silver grounds. This treatment is repeated on the corner pieces and the flap, which are also segmented to produce the same contrast. The use of silver is very unusual and occurs again on the tan doublures, where it is used for the contour of a small oval medallion filled with blue and silver knotwork (fig. 5). Blue pigment is also used for the two tooled borders of the central panel. Raby and Tanndæ compare this binding to the filigree doublures of an undated medical manuscript copied, sometime between 1475 and 1480, by Şeḥ Hamdullah for Mehmed II, which may suggest Ottoman influence.

The illumination of the al-Durra al-mudiyya wa ‘arūs al-mardīyya frontispiece uses a palette of blue, gold, white, and black (fig. 6). Floral sprays in gold on a blue background meander along the two side borders of the title panel. These floral sprays, which belong to the Timurid decorative repertoire, also occur on the covers of Ottoman bindings after the 1460s.

Another example of these developments is to be found on a Kitāb al-farūsiyya copied in 1376 by Muhammad Sawukh al-Faqiyya (fig. 7). This has a finely illuminated title roundel dedicated to the Mamluk sultan Abu Sa’īd Qansuh, who ruled briefly between 1498 and 1500 and was the brother of Asalbay, the favorite of Sultan Qaytbay and the mother of Sultan Muhammad. The manuscript must have been bound or rebound during Abu Sa’īd Qansuh’s reign.
The binding in dark brown leather has segmented borders of densely tooled knotwork in gold, with tooled blue squares at the center of each unit. The central medallion and its two finials in filigree arabesque lie on a blue background. The central element of the medallion provides contrast: its petals are on alternating green and gold grounds, with additional gold lobes at top and bottom. The corner pieces, each with gilded floral sprays on a blue ground, are nearly identical, suggesting the use of stencils. The flap, with two corner pieces and half a cloud-collar profile, echoes the treatment of the central panel. The central medallion may be compared stylistically to that on the doublure of a History of Isfahan of Hamza b. al-Hasan al-Isfahani copied for Baysunqur in 1431, which is now in the British Library (fig. 8). This doublure is inlaid with a red-brown filigree of arabesque tendrils on a blue background and features the same distribution of four smaller lobes marking the center from which the gold-ground arabesques originate.

The illumination of the Kitāb al-furūsīyya title roundel (fig. 9) is very finely done, with gold script on a dark blue background embellished with red split palmettes. The borders are delicately painted with intertwining flowers that find parallels in the Timurid tradition of illumination.

It is also during the reign of Sultan Qaytbay that filigree starts to be used for doublures. Until this period, Mamluk binders appear to have reserved filigree for covers, in spite of its susceptibility to damage. A manuscript entitled Mashārī al-ashwāq ilā masārī al-ushshāq of al-Dimyati was copied by Muhammad b. Hasan al-Tayyibi al-Azhari in 1473 for Sultan Qaytbay and has a 1499 waqf inscription in his name. The doublure (fig. 10) has a large central medallion with arabesques on a background of gold leaf. Four filigree fleurs-de-lis on a blue ground extend from the points of a small central medallion of brown leather. The corner pieces, tooled in gold, incorporate large split palmettes within leaflike forms that occur on numerous other covers of the period and in the corner illumination of title pages. The flap, also in filigree on gold leaf, has a blue cloud-collar cartouche at the center. This design is repeated on the front cover of a copy of the second volume of the Sahih of al-Bukhari, tran-
scribed in 1462–63, indicating the use of stencils and possibly the same binder. 26

The apogee of filigree work during the Mamluk period is to be found on the doublures of a large-volume Qur’an made for Sultan Qansuh al-Ghawri while he was an amir: he is cited as al-amîr al-kabîr al-sayf Qansûh amîr al-malik al-ashraf. 27 The binding is remarkable for including his name and titles and the dedication to his library, beginning in a cartouche on the medallion of the doublure of the front cover (fig. 11) and continuing on the doublure of the flap of the back cover, even including a small cartouche on the spine that reads Qansûh amîr ahhîr kabîr. The lobed central roundel and pendants, of gold outlined in blue, are filled with gilded filigree within a blue-ground cartouche with two pendants above and below it. The lobed corner pieces have filigree arabesques in red leather on yellow and blue grounds marked with small three-dot punches. In composition, the central element of the roundel closely follows the profiles used on Turkman bindings in the 1470s and later found on Ottoman bindings at the end of the fifteenth century. 28 In terms of the palette, the combination of red burgundy leather with golden yellow can be compared to the filigree doublures of the binding of a manuscript prepared for Mehmed II, dated to 1476, 29 which consist of lobed roundels and pendant escutcheons on gold grounds filled with burgundy arabesques detailed with veins and droplets. (In contrast, Mamluk arabesques are plain.) The Ottoman doublures exhibit the same attention to detail in their repeated small punches, in groups of four instead of three, on the pasteboard backing of the filigree.

The cover of the al-Ghawri Qur’an has a large lobed medallion with spade-like escutcheons; the medallion is filled with floral forms and arabesques (fig. 12). Shaded in gold, the arabesques stand out from the intertwining flowers and buds, which are outlined. Simple gold-
tooled chainwork surrounds the segmented borders, whose meander of flowers and buds appears in relief on a background of gold; the leather of the background is gently stippled to give a textured effect.

These intertwining bud and flower forms also appear on the binding (fig. 13) of a Qur’an that has no date or title roundel but bears the name of a scribe who, between 1475 and 1513, copied several manuscripts in Cairo for various patrons, including Sultan Qaytbay.30 The doublures of this binding are also filigree.

Such floral and bud forms can also be compared to those on the outer covers of a Persian treatise on Sufism, Kitāb-i kīmiyā’-i sā’ādat, produced in 1379 for Prince Mal Hushang, one of the Shirvani Shahs.31 The covers of the binding have central medallions filled with flowers and elegant arabesques, which stand in reserve on a stippled ground. However, the composition and size of the medallions on the front and back covers are different. The front cover has a broad central medallion (12 x 10 cm) with an oval centerpiece filled with elegant arabesques bordered by a meander of floral forms. The back cover (fig. 14) has an elongated medallion filled only with arabesques (11.2 x 6.0 cm). The borders of both covers are composed of cartouches with the same bud and flower forms; both have cloud-collar corner pieces. Barbara Brend has pointed out that the stamped decoration of the cover and corner pieces indicates that the binding must be later than the date of the manuscript, as such stamp work is more in keeping with bindings of the fifteenth century. She has also compared this to a freehand-tooled binding in the Chester Beatty Library dateable to 1397 and pro-
duced in Shiraz. In addition, Raby and Tanndı have indicated that the cloud collar first seems to appear in illumination in Shiraz in the same year.32

One wonders, however, why the binders would use a different stamp for each cover, although it was often the case that bindings had different covers when tooled freehand. In fact, Raby and Tanndı note that the introduction of stamping on Ottoman binding standardized the back and front covers.33 Thus, it seems that the binding must be later and may be an Ottoman rebinding, since its lobed leaves, rosettes, and lotus blossoms occur on “Fatih-style” bindings. Raby and Tanndı mention a feathering tool that was used to create a sense of three dimensionality by leaving a small depression on the centers of leaves and buds; the evidence of the use of such a tool can easily be seen on this binding.34 What is important, however, is that these techniques now appear on
fine Mamluk bindings during the later period, marking a departure from what had gone before.

To conclude, the filigree bindings of the later Mamluk period drew on developments in both ornament and technique that originated at the Jalayirid court in Baghdad and were later refined and pushed to new heights of virtuosity in the Timurid court ateliers. Parallels may also be noted with Ottoman bindings, particularly of the 1460s, which also seem to have influenced these developments, although the exact nature of the relationship has yet to be unraveled. It is during the reigns of Qaytbay and al-Ghawri that these influences manifest themselves in the variety of styles that are found on fine bindings of the period. However, in adopting these techniques, the binders also adapted them, using leather filigree for both covers and doublures, a more limited and subdued use of polychromy, and no figural decoration.

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NOTES

1. For Coptic examples, see G. D. Hobson, “Some Early Bindings and Binders’ Tools,” The Library 4, 19 (1939): 210–11; The British Library, The Christian Orient (London, 1978), nos. 142, 147, 148; G. Bosch, J. Carswell, and G. Petherbridge, Islamic Bindings and Bookmaking, cat. of an exh. at the Oriental Institute, the University of Chicago, May 18–Aug. 18, 1981 (Chicago: Oriental Institute, University of Chicago, 1981), p. 69. For fragments from Turfan, see A. von Le Coq, Die Buddhismische Spätantike in Mittelasien, 7 vols. (Berlin, 1922–33), vol. 2, pp. 17, 40, pl. IV; also reproduced in H. J. Klimkeit, Manichean Art and Architecture (Leiden, 1982), p. 50, fig. 56.

2. Leather filigree on a backing of green silk was used for the doublures of a binding of a music manuscript for Sultan Murad dated to 1439–40; see J. Raby and Z. Tanind, Turkish Binding in the 15th Century, ed. T. Stanley (London, 1993), pp. 29–30.

3. Museum of Turkish and Islamic Arts (hereafter TIEM) 2046.

4. L. Binyon, J. V. S. Wilkinson, and B. Gray, Persian miniature painting (Oxford, 1933); O. Aslanapa, “The Art of Bookbinding,” in Basil Gray, ed., The Arts of the Book of Central Asia (London, 1979), p. 59; Bosch, Carswell, and Petherbridge, Islamic Bindings, p. 69.

5. V. Minorsky, trans., Calligraphers and Painters: A Treatise by Qadi Ahmad, son of Mir Muslih (Washington, DC, 1959).

6. Raby and Tanind, Turkish Binding, p. 13; for a full description of the technique of pressure molding, see Appendix 1, p. 216.

7. Ibid., p. 50.

8. A. H. Hobson, Humanists and Bookbinders: The Origins and Diffusion of the Humanistic Bookbinding (Cambridge, 1989), p. 45.

9. Raby and Tanind, Turkish Binding, p. 42, figs. 40, 41.

10. Z. Tanind, “Topkapı Sarayı Müzesi Kütüphanesi nde Ortaçağ İslam ciltleri,” Topkapı Sarayı Müzesi Yılığı 4 (Istanbul, 1990): 138, fig. 22; Topkapı Sarayı Library (hereafter TKS) A. 247/1, 18.5 x 13 cm.

11. Z. Tanind, “15th Century Ottoman Manuscripts and Bindings in Bursa Libraries,” Islamic Art 4 (1990–91): 143–74; Raby and Tanind, Turkish Binding, p. 4; B. Gray, “The Monumental Qur’ans of the Ilkhanid and Mamluk Ateliers of the First Quarter of the Fourteenth Century,” Rivista degli Studi Orientali 39 (1985): 135–46, pl. 6.

12. Splendeur et majesté: Corps de la Bibliothèque nationale, cat. of an exh. organized by the Institut du Monde Arabe and the Bibliothèque nationale (Paris, 1987), p. 48.

13. Chester Beatty Library, 2 sections; see D. James, Qur’ans and Bindings from the Chester Beatty Library (London: World of Islam Festival Trust, 1980), p. 129; Freer Gallery of Art, Washington, DC, 45.15; see E. Atiu, Art of the Arab World, cat. of an exh. at the Freer Gallery of Art (Washington, DC, 1975), no. 40; Walters Art Gallery, Baltimore: see R. Ettinhausen, “Near Eastern Bookcovers and Their Influence on European Bindings: A Report on the Exhibition ‘History of Bookbinding’ at the Baltimore Museum of Art, 1957–58,” Ars Orientalis 3 (1959): 123; British Library: see M. Lings and Y. Safadi, The Qur’an (London: British Library, 1976), no. 160; another in the Library of Congress, Washington, DC.

14. Raby and Tanind, Turkish Binding, p. 10, fig. 8: 37 x 27 cm.

15. TKS A. 317, 26.5 x 17 cm: see Z. Tanind, “Ortaçağ İslam ciltleri,” p. 149, fig. 33.

16. Raby and Tanind, Turkish Binding, p. 53, figs. 51 and 52.

17. TKS A. 643, 27.5 x 15.8 cm.

18. Bosch, Carswell, and Petherbridge, Islamic Bindings, no. 71. The same type of textured textile doublure in blue is to be found on a binding published in F. P. Sarre, Islamic Bookbindings (London, 1925), pp. 13, 14, pls. VII and VIII.

19. Jaz 21, Bibliothèque nationale ms. Arabe 5845, no. 346, 37.4 x 26.4 cm; see Splendeur et majesté, p. 45; Chester Beatty Library, ms. 1474, 36.5 x 26.6 cm: see James, Qur’ans and Bindings, p. 127. James notes that there is another section in the Cincinnati Art Museum but is not sure if its binding is identical to this.

20. TKS A. 2829, 32 x 21.5 cm; Weisweiler has also published another manuscript by this scribe, dated to 1446: see M. Weisweiler, Der islamische Bucheinband des Mittelalters (Wiesbaden, 1962), p. 186.

21. Raby and Tanind, Turkish Binding, p. 62 and figs. 66 and 67.

22. Ibid., pp. 52–53, figs. 51 and 52.

23. TKS A. 2129: see Topkapı Sarayı Müzesi, Kütüphane, Araştırmalar kataloğu, ed. Fehmi Edhem Karatay (Istanbul, 1962), cat. no. 7408, 30 x 24 cm; Z. Tanind, “Ortaçağ İslam ciltleri,” p. 128, pl. 3.

24. History of Isfahan, dated equivalent to 1431, British Library Or. 2773.

25. TKS A. 649/1, 36.5 x 26 cm.

26. TKS 472/2, 43.5 x 31.5 cm.

27. TIEM 508, 62 x 38 cm.

28. Raby and Tanind, Turkish Binding, p. 97, figs. 81, 82.

29. Ibid., cat. 22, p. 164.

30. TIEM 436, 42 x 24 cm.

31. A. Sakisian, “La reliure dans la Perse occidentale, sous les
Mongols, au XIVe siècle au début du XVe siècle,” *Ars Islamica* 1 (1934): 180–91; TIEM Y1999, 20.5 x 29.7 cm. This must be Hushang Kay Kavus (r. 1378–82), the last ruler in the first line of Shirvani Shahs: see E. von Zambaur, *Manuel de généalogie et de chronologie pour l'histoire de l'Islam* (Hanover, 1927), pp. 181–82.

32. Raby and Tanndi, *Turkish Binding*, p. 37.
33. B. Brend, “The Arts of the Book,” in *The Arts of Persia*, ed. R. W. Ferrier (New Haven and London, 1989), p. 235: Chester Beatty Library, Dublin, ms. 114, dated to 1397 by matching work in the British Library, Or. 2780.
34. Raby and Tanndi, *Turkish Binding*, p. 51.