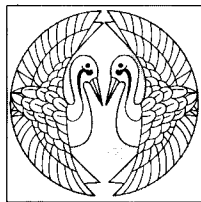


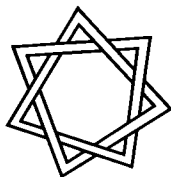
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MUSLIM BINDINGS WITH *AL-KHĀLIDIYĀNĪ* DOUBLE BORDERS

The introduction of the methods of quantitative analysis into the study of Islamic bindings is producing results, which promise considerable progress in this field in the nearest future. Like in other cases considered in my previous two articles [1], the advantages gained by applying these methods can be explained by the very nature of Muslim decorative art, where symmetry and proportions always played a prominent part.

Fig. 1 shows the upper cover of a manuscript belonging to the Topkapı Sarayı Library in Istanbul [2]. O. Aslanapa, who published the cover, describes it in the usual way: the manuscript “has a lacquer binding with gold painting on a black ground. The cover has a central medallion with pendants and quarter medallions decorated with *rūmī*, clouds and *hatāyī*. The area between these shows symmetrical decoration of fine spiral forms, peonies, *hatāyī* and birds which look like pheasants. The same motifs are employed on the lower cover” [3].

Some decorative elements not mentioned in the description of the binding cited above are considered in the present article. These are the two rectangular borders set one within the other (*fig. 1*). On *fig. 2* they are displayed as a principal scheme free from all other components of the decorum.

Measurements of the binding, made from the photograph published by O. Aslanapa, show that the inner sides of the smaller border form the so-called “double square”, *i. e.* a rectangle with sides relating as 2:1 (ABCD on *fig. 2*). The inner sides of the larger border also form a rectangle (A'B'C'D'), its sides relating as 5:3. As far as I know, the presence of proportional rectangles, the relation between their sides expressed in whole numbers, has so far never been recorded in the descriptions of decorative bindings [4]. As there is no evidence on this phenomenon in literary sources, we should consider the possibility of having here an occasional construction involving two rectangles with their sides relating as 2:1 and 5:3 by pure chance. The question would have never been answered if it were just a single case. By the present time, however, I know at least nine bindings with decorative patterns involving a double square set within a rectangle proportioned as 5:3 (see the list below). But even the existence of many examples does not solve the problem completely.

In theory there is always a possibility to set within the A'B'C'D' rectangle a whole series of double squares, each time changing the absolute length of their sides. For

this reason even if the proportion itself, being nine times repeated in binding decorations, ceases to be an exclusion, the absolute size of the rectangles could still be dictated by pure chance. In this case there would have been nothing to write about.

In our case, however, we deal with a construction with a permanent configuration of its elements, since their actual dimensions are interdependent. The same features are present in a whole series of bindings. It means that the binding pattern described here should be considered as a special construction, which we may define as a *al-Khāliidiyānī* double border. Its qualities are striking.

The long sides of the rectangles forming the double border reveal a stable proportion of 6:5, while the correlation of the short sides is $6^2:5^2$, *i. e.* they are related as the squares of the same numbers. This “Pythagorean” proportion, graceful and at the same time significant, makes it impossible to build more than one double square within a rectangle proportioned as 5:3. This only possible double square can not therefore be an occasional construction, it could not as well be repeated on a series of bindings by pure chance. It removes all doubts which arise when first approaching the *al-Khāliidiyānī* double border [5].

The binding we are considering here (*fig. 1*) was reproduced with no scale, and no measurements were given in its description, which makes it difficult to support our analysis with calculations. The reader, however, can check the author's conclusions by measuring the photograph reproduced in the article and making his own calculations. It will be enough to verify the proportions suggested here — it gives you an exclusive chance to see how slight were the deviations made by the artist who drew the double border [6].

Now, when we are sure that the well-proportioned double border really exists as one of the components of the decorative pattern of book-bindings, let us return to the upper cover of the Istanbul Manuscript and to its description. Taking into account the nature of its rectangular borders, it becomes possible to make a more sophisticated description of its decorative pattern.

Four corner pieces set within the central (smaller) rectangle define the outlines of the figure which quite often appears on decorated Islamic book bindings. Along with the central medallion and its pendants it forms a logically motivated group deserving a distinct character-

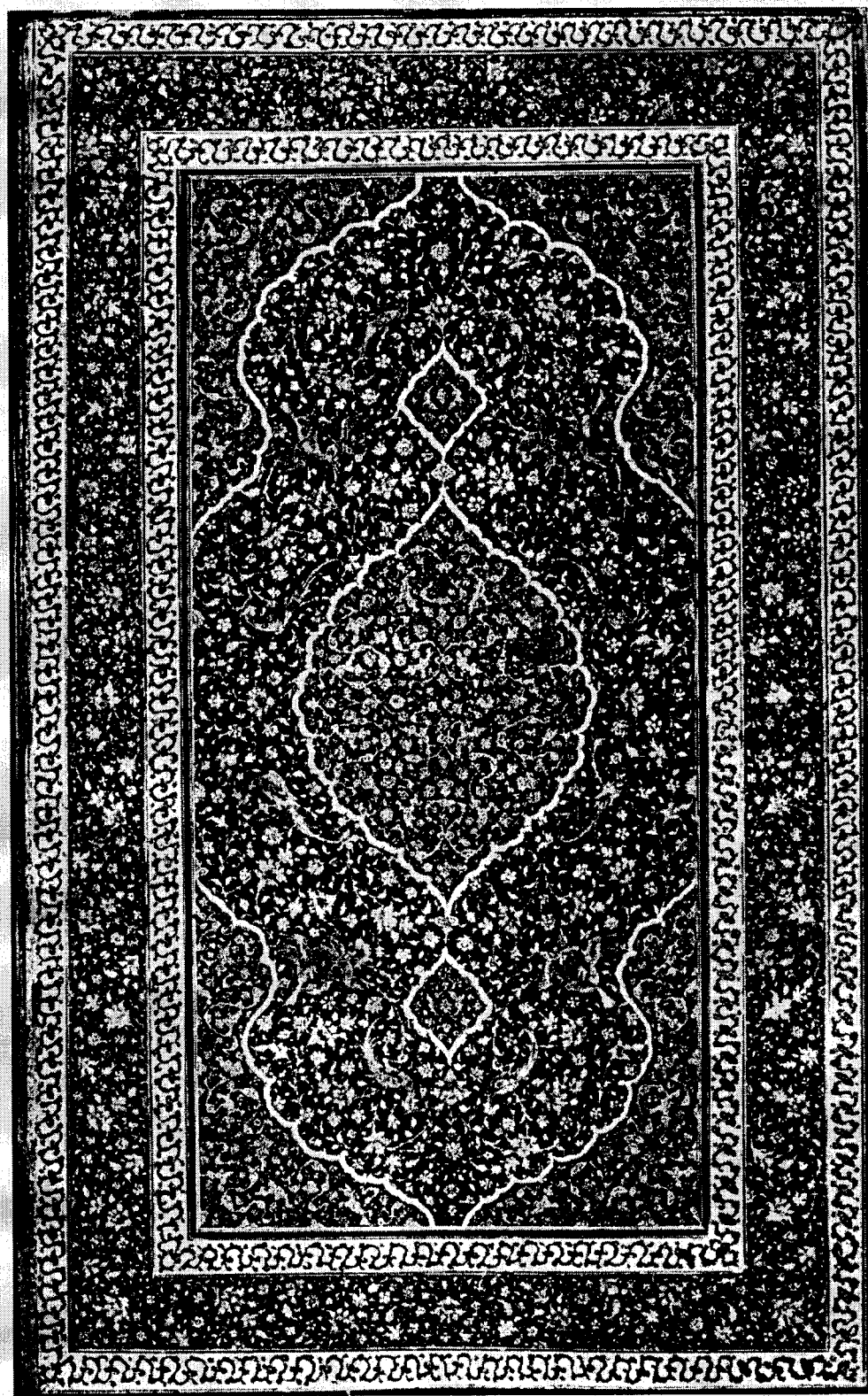


Fig. 1

istic as a figurative component of the general pattern. The double border, as a constructive component of the decorum, is treated separately for the reasons explained above. All the rest — the decorative arabesques covering the whole surface of the binding, which form the background upon which the border and the central figure are arranged, can be distinguished as the third descriptive component [7].

The ties between these three decorative components are so loose, they are so autonomous in their physical and artistic unity, that we may classify large groups of bindings by any of them. From the constructive point of view, *i. e.* by the presence of the *al-Khālidiyānī* border, we may attribute to one group the following bindings: two bindings published by O. Aslanapa [8], one published by D. George and (once more) by G. Schoeler [9], and six from the album by Kemal Çig [10]. By the figure outlined by corner-pieces the same bindings (but for the one published by George and Schoeler) can be attributed as well to another group, which includes also many bindings from Çig's album and from other publications not fitting into the first group [11]. Finally, if we take into account the stylistic characteristics of arabesques, the same nine bindings of the first group might be divided not into two sub-groups (as by the second criterion), but into several different classes. It is evident that the description of the three components requires a differential attitude: each component should be described within the limits of its own terms and notions. The *constructive* component requires a mathematical description, the *figurative* — a formal one, the *stylistic* component should be described in the language of art history. At the same time it should be admitted that decorative patterns of book bindings are usually viewed as something whole, and that the structural analysis of such amalgam is just a way of studying monuments of decorative art. The double border, when it is present in a decorative composition, evidently becomes the dominating element. It determines the size of the figurative component and, to some extent, has influence on the division

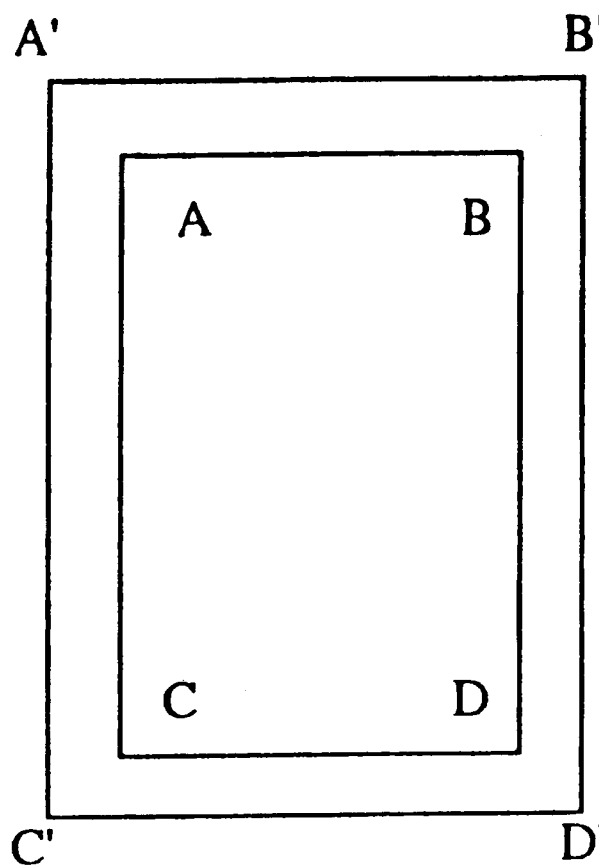


Fig. 2

of the surface of a book cover and, finally, on the character of its background.

Defining at the beginning of the article the border rectangles through the relation of their sides (5:3 for the larger rectangle and 2:1 for the smaller one), we were trying to fix the reader's attention on the difference of their format. Meanwhile the double *al-Khālidiyānī* rectangles have a common measure making it possible to demonstrate not only their shape but their relative size as well. These proportions can be expressed in whole numbers as 5:3 for the larger rectangle and 4:2 for the smaller rectangle. In other words, reducing each of the sides of the larger rectangle by 1/6 we get the double square, its dimensions determining the size of all other decorative elements (central medallion, corner pieces, etc.).

As for the decorative component, it is filling the space left on the book cover after the constructive and figurative components have been set. The field left to be filled with arabesques is already divided by the former settings into distinct areas. Now the artist is free to decide, if he wants to cover them with uniform patterns [12], to exercise his imagination inventing individual designs for each piece [13], or to combine both methods [14].

In fact, here are only two free areas: the double square in the centre and the space left between the two *al-Khālidiyānī* rectangles [15]. It is, however, quite enough to ensure such a variety of decorative designs, that their constructive uniformity becomes almost indistinguishable. As it often happens when we deal with ancient technologies, we sooner or later come towards the question: when the double border of this kind first appeared on Muslim bindings. At present there is not enough information to answer it. In all the nine cases I know the authors, who published the manuscripts, date them between 1492 [16] and the 19th century [17]. Most of these bindings are so similar in style that, if studied with more attention, they may turn to be more closer in time to each other.

Notes

1. V. V. Polosin, "To the method of describing illuminated Arabic manuscripts", *Manuscripta Orientalia*, I, 2 (1995), pp. 16–21; Val. V. Polosin, "Frontispieces on scale canvas in Arabic manuscripts", *Manuscripta Orientalia*, II, 1 (1996), pp. 5–19.

2. al-Ḥusaynī, *Dīwān*, MS, Herat, 897/1492, Topkapı Sarayı Museum (call number E.H. 1636).
3. O. Aslanapa, “The art of bookbinding”, *The Arts of the Book in Central Asia: 14th–16th Centuries*, ed. B. Gray (Paris—London, 1979), p. 63. A black-and-white photograph of the binding is reproduced on p. 58, fig. 29.
4. There is a special section in the work by M. Weisweiler, *Der islamische Bucheinband des Mittelalters* (Wiesbaden, 1962), pp. 10—1. Proportions expressed in whole numbers may indicate the use of some definite measure of length, which is interesting also from the point of view of historical metrology.
5. Our doubts were not completely groundless: there is one case where rectangles proportioned as 5:3 and 2:1 are combined, which does not answer the double border rule defined above. This is the binding of the Berlin manuscript Hamilton 1 published in the exhibition catalogue *Islamische Buchkunst aus 1000 Jahren Ausstellung der Staatsbibliothek Preussischer Kulturbesitz, Berlin*, ed. Hars Kurio (Berlin, 1980), p. 43.
6. This same figure appears on 25 bindings reproduced in the album by Kemal Çig cited below — note 10, on 4 bindings published by G. Schoeler — note 11 and one binding in the exhibition catalogue mentioned above (note 5). One of the possible methods of checking the proportion is the following: we measure one of the sides of one of the border rectangles (AB, BC, A'B', B'C'), let it be AB. The length of all other sides is established by calculation, each time the result is verified by measuring the corresponding side on the photograph of the binding. In this way, by multiplying the length of AB by 1.44 (which corresponds to $6^2:5^2$), we get the length of A'B'. By multiplying the length of A'B' by 1.6666 (corresponding to 5:3) we get the length of A'C'. Dividing the last number into 1.2 (proportion 6:5) we establish the length of AC, the last of the elements in question. This test illustrates the necessity of giving the measurements of at least one or two distinctive features of decorative patterns in publications, see Polosin, “To the method of describing”, p. 21. Having the measurements of at least one of the elements of a double border pattern makes it easier to study it, even if it is reproduced with no scale.
7. I have already mentioned the necessity of distinguishing the multi-layer character of Islamic decorative patterns in one of my earlier works, see Polosin, “To the method of describing”, p. 19.
8. Aslanapa, “The art of bookbinding”, p. 58, fig. 22; p. 71, pl. XVI.
9. *Islamische Buchkunst*, p. 27, zu No. 10 — reproduced in colour; *Arabische Handschriften*, Teil 2, beschreiben von G. Schoeler unter Mitarbeit von H. C. Graf von Bothmer, T. Duncker Gökçen und H. Jenni (Stuttgart, 1990), Abbild. 124 (Ms. or fol. 3326 — black and white reproduction).
10. K. Çig, *Türk kitap kapları* (Istanbul, 1971), p. 32, resim (illustration) VI; p. 36, resim X; p. 38, resim XII; p. 47, resim XXI; p. 52, resim XXVI (defective); p. 53, resim XXVII (defective).
11. Aslanapa, “The art of bookbinding”, p. 68, pl. XII; p. 69, pl. XIII; p. 70, pl. XV; p. 72, pl. XVII; p. 76, fig. 33; see also *Arabische Handschriften*, Teil 2, Abbild. 100, 112, 113, 120.
12. Çig, *Türk kitap kapları*, p. 53, resim XXVII; p. 32, resim VI.
13. Çig, *Türk kitap kapları*, p. 47, resim XXI; *Islamische Buchkunst*, p. 27 (in colour). The reproduction of the same cover in *Arabische Handschriften*, Teil 2, Abbild. 124 (black and white photograph).
14. Çig, *Türk kitap kapları*, p. 38, resim XII.
15. The vertical and the horizontal sections of this space on the mathematical model of the *al-Khālidiyānī* double border are of slightly different width. To make it more even along the whole perimeter of the double border the binder had to correct slightly the size of the “ideal” rectangles. These deviations from the ideal proportions are, however, too insignificant to be taken into account.
16. See note 2.
17. Ibn Kamāl Pāsha (d. 940/1533), *Tafsīr surat al-mulk*, MS, Staatsbibliothek Preussischer Kunstbesitz, Berlin (call number Ms. or. fol. 3326), its binding published twice, see note 14.

Illustrations

Fig. 1. External side of upper cover, lacquer with gold, Ḥusaynī, *Dīwān*, MS, 897/1492, Herat, Topkapı Sarayı Library, Istanbul (call number E.H. 1636). Courtesy of the Topkapı Sarayı Library.

Fig. 2. *Āl-Khālidiyānī* double border (principal scheme).