The publication of two fine catalogues — by F. Déroche [1] and by G. Schoeler [2] — marks the beginning of a new stage in descriptive arabistic archaeography, the development of a new branch of this discipline, practically non-existent before but prepared, sometimes consciously, sometimes by intuition, by several publications appearing during the last decades. We bear in mind the shift of archaeological interests from texts represented by some particular copies to manuscripts as they are, which means a basic renewal of the object described in catalogues of Arabic manuscripts.

A period of some confuse of the genre [3] producing a series of catalogues with too simplified descriptive schemes [4] which preceded the birth of this new tendency was followed by the appearance of descriptive works marked with certain innovations [5]. This tendency is most clearly revealed in the catalogues by F. Déroche and G. Schoeler. Due to the specific interests of their authors and, to some extent — to a great number of codicologically significant photographic illustrations supplementing the descriptive part, these catalogues became really significant as publications of objects of material and artistic culture [6]. Without these photographic supplements the catalogues would have lost much not only in volume but first of all in their scientific and methodological significance.

Among the practical results of the appearance of catalogues, where much space is dedicated to the description of decorative elements present in manuscripts, was the understanding (which came, partly, due to their appearance) of how little has been done so far by arabistic archaeography in the field of describing illuminated manuscripts [7].

In view of this current re-orientation of archaeography it is time to admit, that among the reasons for archaeographers' insufficient activity there were difficulties arising in the process of making a verbal description of decorative elements. There are no Arabic terms (or, at least, such have not been revealed so far), and the current European terminology is not well adapted to describe the realities of Islamic manuscript-art. The available classification of decorative elements is unstable and is not international [8]. The authors of catalogues encounter much more difficulties in this field than those art-historians who, judging by their works, have something to do with the object of our investigation. This is confirmed once more by the catalogues by F. Déroche and G. Schoeler: answering the natural demand of scholarly audience for new knowledge, they could not or were not willing to ignore the presence of decorative elements in Arabic manuscripts, even if they are using the language of art history rather than of descriptive archaeography to define them. For this reason it would have been difficult to imagine, if not for the photographs illustrating the catalogues, what could these "verbal portraits" of decorative elements mean. But illustrations are expensive, often it is not possible to produce them because of various technical difficulties. The result is, that investigators, who usually follow the steps of catalogue-makers, are denied the possibility to search for and select their materials from catalogues. We must admit, that by the present time the decorations of Arabic manuscripts as a specific branch of applied art have been studied and described rather superficially and, moreover, selectively. It means that materials required for a full-scale study of this branch of art by art-historians are not quite prepared for them by arabists-archaeographers. A variant of such preliminary study is submitted here to the attention of the reader.

The Berlin manuscript [9], which interested me with its frontispiece, had been already, at least three times, considered by specialists. For the first time — because of its binding. Then M. Weisweiler included its brief and specific description into his monograph on medieval Islamic bindings [10]. Then it was exhibited, and its description appeared in the exhibition catalogue, in the chapter on book-decorations (Ornamentaler Buchschmuck) [11]. Finally, its full description was included into the catalogue of Arabic manuscripts by G. Schoeler mentioned above [12]. There it attracted my attention, partly because of the character of its illuminated pages [13], but, first of all — by the reproduction of its title page or, better to say, its frontispiece (fig. 1).

The main part of this frontispiece represents a figure which often occurs among decorations of Arabic manuscripts — "a square between two rectangles" (my definition). Its three components are bound together with one rectangular frame. On the left, on the outer side of the frame, it is adjoined by two circular medallions arranged on the horizontal axes of the two rectangles and by a semicircular medallion on the horizontal axis of the square. Each of the rectangles contains a cartouche with text (the title of the book). A large octofoil is set in the center of the

square, having by its four sides four small eight-petal rosettes.

It turned up, that this composition had regular quantitative characteristics making its verbal description more definite. If we take for the length-unit the height of the rectangle in the three-fold figure “square between two rectangles”, then the side of the square will be equal to three such units, and the relation between the sides of the rectangle framing the whole composition may be characterized precisely as 5 to 3.

There is no reason to presume that this proportion is a trick of fate. As we shall see later, the author of the frontispiece composition was exploiting this very ability of the longer (vertical) side of the frame to be divided into five equal sections. The first and the fifth section he made into the heights of the two symmetrical rectangles holding the square between them, the third (central) section — into the diameter of the semi-circular medallion, the second and the fourth, adjoining the central one, he left as two equal “quiet” zones noticeable for the very reason of absence of any other mark (fig. 1).

This, however, does not exhaust the possibilities of a formal verbal description. If we draw diagonals within the two rectangular figures of the frontispiece — its frame and the square within it (fig. 2), we shall see something never discussed before by the investigators of Arabic manuscripts: the whole background of the frontispiece composition expressively revealing its geometric character. The discovery of this geometric background creates more comfortable conditions for further analysis — a possibility to make a formal description and interpretation of the secondary elements of the frontispiece: the octofoil, the rosettes around it, cartouches and medallions.

The octofoil in the middle of the frontispiece appears now as a figure strictly centered in relation to all its sides. Its center coincides with the point of intersection of the four diagonals. The octofoil itself blends with a circle, its radius equal to 1/5 of the height of the frontispiece, i.e. its diameter is equal to 2/5 of this height. This hypothetical circle in its turn can be regarded as blending with some square, its angles marking the centers of the four rosettes. Lines connecting the neighboring centers make the sides of this phantom square, which are also equal to 2/5 of the height of the frontispiece. In that way the space left between the sides of the large square (3/53/5) and the octofoil (= the sides of the phantom square) is equal to 1/10 of the height of the frontispiece. The radius of the semi-circular medallion on the horizontal axis of the frontispiece is also equal to 1/10 of this height.

The measure of 1/10 is also used for symmetrical rectangles placed above and below the square component of the triptych. It makes one half of their height, marking the axes lines upon which, as we have mentioned, the circular medallions are set. On the intersection points of the longer diagonals with these axis lines lie the centers of the semi-circles rounding the butt-ends of the cartouches. On the same axes, at the same distance of 1/10 from these centers, lie the centers of the semi-circles (arches) of the second row, also involved in rounding the butt-ends of the cartouches. Their radius is also equal to 1/10 of the height of the frontispiece.

Thus a rather boring enumeration of the details of the frontispiece is necessary to feel how easy and simple it was for the artist to operate, in fact, with just one section equal to 1/5 of the height of the frontispiece. Sometimes he was enlarging it (two, three, five times) — to build up larger elements, sometimes reducing — twice (for the semi-circular medallion, petals of the cartouches, etc.), four (circular medallions), eight (rounding of the cartouches) or even sixteen times (rosettes).

After all this there is no need to come back to the question, if the proportion 5:3 was chosen deliberately or not. It is clear that preliminary calculations made a part of the creative method of the artist. In this case, however, the calculations were not arithmetical. The matter is, that the proportion indicated was the necessary condition of constructing the frontispiece considered here, even if its necessity was of a limited nature, not going beyond certain border and ending at a comparatively early stage of the artist’s work.

It was, in fact, enough to select a frame, its sides relating as 5:3, to ensure a spontaneous (i.e. not requiring any preliminary calculations) division of the rectangle into the figures of the frontispiece described above. The graphic way of solving this problem most probably applied by the artist could be the following.

Four concentric circles are drawn around the center of the rectangle (fig. 3). The first one, its radius equal to a half-length of the height of the rectangle, when intersecting the diagonals, gives the points which should be connected with a line to find the radius of the second circle. The intersection points of the second circle with the sides of the rectangle, if connected by pairs, divide the area of the rectangle forming the required threefold composition “square between two rectangles”. The height of each of the two rectangles will be equal to one-fifth, and the side of the square — to three-fifth of the height of the original rectangle. In this way the proportions of the main figures of the composition are established in the most natural way — by graphic construction, not otherwise.

The further development of the frontispiece is ensured in the following way. The intersection points of the first circle with the sides of the rectangle indicate the axes of the minor rectangles [14]. The intersection points of the third circle with the diagonals of the square correspond to the centers of the rosettes. The fourth circle is reserved for the octofoil in the center of the frontispiece.

It turns up that the artist was solving a standard geometric problem. But the possibility of confining (fully or partly) a manuscript decoration to the solution of some standard geometric problem is very important for descriptive archaeography, because it may produce favorable conditions for an adequate verbal description of the object. The suggested criteria help to distinguish the general and the particular features of the object and in this way to develop the existing system of definitions, reducing the dependence of a description on its illustrative supplements. The constructive character of the new criteria is revealed in their ability to stimulate development not only in archaeography but even beyond its limits. Let us take the present case. Finding out, that the artist was solving a standard problem of dividing a rectangle proceeding from the inherent characteristics of this rectangle, we may ask, when, where and by whom these characteristics had been revealed? Was the problem described here really a standard problem (i.e. were similar problems usually solved by other artists)? Here we approach the range of questions belonging to the sphere of the history of science and of
applied arts. To answer them, it is necessary to start from
the beginning, surveying the available decorative elements
of manuscripts which, as we have mentioned earlier, are
not recorded by the majority of catalogues [15].

We are lucky with the problem described here — even
now we can state definitely that the Berlin manuscript
dating to the beginning of the 10th/16th century [16]) is
not the earliest example of a rectangular composition 5:3.
The same problem was being solved in a manuscript of
391/1000 copied in Baghdad by the famous calligrapher
Ibn al-Bawwáb [17]. During the five hundred years sepa-
rating the two manuscripts this problem could be solved
many times by different artists. We may expect that some
of the decorations created by them have survived and will
be discovered. Let us turn now to the sample found in the
Dublin manuscript [18].

There is no resemblance between it (fig. 4) and the
frontispiece described above. Their geometric background
is, however, the same (fig. 5), which allows us to omit the
repetition of the analysis done in the former case. Let us
consider therefore the differences between these two deco-
rations and their significance for descriptive archaeo-
graphy.

Two artists select for their work rectangles of the same
format, then apply the same method to mark their longer
sides — first two sections on the opposite ends, each equal
to 1/5 of the length of the rectangle, then the remaining	hree sections in the middle. What is common in both cases
is confined to this procedure. We shall never find out the
name of its inventor because of its great antiquity. After
that follows the individual creative work of the artists. At
this second stage the individuality of the artist gets enough
space to express itself. The two examples given here (fig. 1
and 4) demonstrate, how different can be two patterns
deriving from the same starting point. It clearly shows, that
general and auxiliary components must be somehow differ-
entiated in an archaeological description.

To comment this conclusion we return again to our
first manuscript and its frontispiece. Beginning to
work on it the artist apparently had some general and
rather original idea. Under its influence his gambling
with the one fifth of the height of the frame became the
leit-motif of the whole composition. He played a
'Ver two boards game' simultaneously filling the space of the
rectangle with the maximum number of figures and
using the maximum possible number of derivatives from
his standard measure (one fifth of the height) contain-
ing a hint on the characteristics of the rectangle of the
format selected. If we estimate his work from this
point of view, we must rec-
ognize it a masterpiece. In
spite of its obvious simplic-
ty and transparent compo-
sition (making a pleasing sight) it includes over thirty
components characterized by one fifth of the height of the
frame or the multiples of this measure (sides of all rectan-
gular figures, diameters of three medallions, four rosettes,
octofoil, eight components rounding cartouches, etc., up
to decorative arrows projecting to the margins from the four
corners of the frontispiece). This is what is called the limit.
And it is not easy to surpass it on the way selected by the
artist. As for the disguised manner in which the artist's
idea is submitted and the apparent absence of a key to this
idea — that was in conformity with the spirit of the time.
Educated people highly valued various riddles and enig-
mas, many of them were hidden in verse and in literary
works. It was pleasant to find them, and to be able to make
them. The art of decorating manuscripts, as we now see,
was also subject to this fashion.

The exquisite way used by the artist to build up the
frontispiece is urging us to remind the reader that the Ber-
lin manuscript was made for the Mamluk sultan Kânsîh
al-Gaurî (906—922/1510—1517) [19]. After his downfall
it was considered worthy to be included into the library of the
Ottoman sultan Selim I (918—926/1512—1520) [20].

Among the motifs inducing me to write this article was
my eagerness to demonstrate the possibilities of quantita-
tive methods when applied to the analysis of artistic deco-
rations. The results obtained in this way enable us to make
a more precise and informative description of the object
considered than anything achieved before in this field. May
be, we even could expect in the future that a description
created on the basis of quantitative analysis will make the
expensive photographic supplements to catalogues unnec-
essary, transferring them from the sphere of descriptive ar-
cheography to that of 'publicative' archaeography.

This division between publishing objects of art and
their description should not, however, disturb the synchro-
nous process of development of these two processes, now
embodied in the form of a "catalogue with a photographic
supplement". Quantitative analysis requires many samples,
as well as the use of such a "rough" instrument as
gauge. The established rules of keeping and copying
manuscripts practically ex-
clude the possibility of making all these prelimi-
nary measurements on origi-
als. Then the originals
must be substituted on schol-
ars' desks for their copies
— precise and available in
the number required (like
Xerox copies made from fi-
e reproductions). From this
point of view the publication
of objects becomes the pre-
liminary condition of im-
proving the methods of
quantitative analysis and of
obtaining basically new ma-
terials on the history of me-
dieval Arab applied art (as
well as Muslim art in ge-
neral). The truth of this sta-

It is time to introduce into Arabic studies what archaeologists have been practicing for a long time: to reproduce objects of codicological interest with a scale [21]. To check the scale on reproductions it will be useful to include the measurements of one or two prominent components of a decoration into their description (this concerns also catalogues of manuscripts). In the present-day practice the functions of such control measurement are fulfilled only by the size of manuscript folios indicated in most catalogues. This, however, is given with a different degree of precision. Besides that, margins are often "cut" on a reproduction, which eliminates the only evidence of its real scale.

Notes

3. Here I have in view the limited number of catalogues published during this period rather than the length of the period itself.
4. Catalogue of Arabic Manuscripts (Yahuda section) in the Garret collection, Princeton University Library. By R. Mach (Princeton, New Jersey, 1977), Arabiske rukopisker Institutet vostokovedenien. Katalog (The Arab Manuscripts from the Institute of Oriental Studies. A Brief Catalogue), ed. A. B. Khalidov, pt. 1—2 (Moscow, 1986) etc. Attributing these catalogues to a special group we were taking into account not the inner motifs of their authors or the circumstances of their work, but only the place held by these catalogues on the evolutionary scale of the descriptive genre. This evolution has never been treated in the arabistic literature, which makes it worthy of a special consideration, in connection with the development of computer catalogues in particular.
6. Photographic supplements to catalogues of Arabic manuscripts were used at first to collect paleographic materials — to enable the dating of manuscripts containing no dates by handwriting. It was connected with the preferential orientation of arabistic archaeography towards text-publishing. The orientation has changed, but the supplements are still made, in most cases, as paleographic albums.
7. A catalogue by A. J. Arberry, The Koran Illuminated. A Handlist of the Korans in the Chester Beatty Library (Dublin, 1967) is, probably, the only work written in this genre. We should not forget, of course, that there is a number of exhibition catalogues, but their main task is not the description but the selection of illuminated manuscripts from the total number of books. Descriptions given in works dedicated to illuminated manuscripts are brief; their function is supplementary. The general survey of this literature is given in: D. James, Qur'ans of the Mamluks (New York, 1988), p. 12—3. Pages 219—49 contain the descriptions of 73 illuminated copies of the Koran.
8. This problem is considered in my article "Hudozhestvennye 'unvany v arabskikh rukopiisakh" (Decorative 'Unvans in Arabic Manuscripts) — in print.
13. The description was done by Dr. Hans-Caspar Graf von Bothmer (Saarbrücken) who helped G. Schoeler to describe the illuminated manuscripts included in the catalogue (Schoeler, Arabische Handschriften, p. X).
14. The axis line is dividing the height of the minor rectangles in half. Knowing this, it is possible to construct them not implying the second circle.
15. Sometimes there are rare exclusions. The Catalogue of the Institute of Oriental Studies of the Russian Academy omitting, for the sake of brevity, many other characteristics (even the size of folios), is regularly mentioning the presence of "unvans and frontispieces.
16. This date is found on the exlibris of the Mamluk Sultan Kânsuh al-Gauri and the stamp of the Ottoman Sultan Selim (see below, notes 19 and 20).
17. A. J. Arberry, op. cit., p. 15, no. 41, pl. 26 [MS. 1431].
18. Besides Arberry's catalogue (see note 7) it is reproduced on p. 14 of D. James' book (see note 7). James is defining it as a "finispiece" — according to its position in the manuscript.
20. Ibid., The stamp of Selim I on folio 1a is reproduced in the supplement to the catalogue, Abb. 83—4.
21. The first (but still the only) example of this attitude is the catalogue by F. Déroche mentioned above.

Illustrations

Fig. 1—2. Ms.or.quart.1817, fol.1a (Staatsbibliothek zu Berlin-Preussischer Kulturbesitz, Orientabteilung). Frontispiece and its geometric background.
Fig. 3. Some peculiar geometric properties of the rectangle 5:3.
Fig. 4—5. Ms.1431, fol.285a (The Chester Beatty Library, Dublin). Finispiece and its geometric background.
CONTENTS

TEXTS AND MANUSCRIPTS: DESCRIPTION AND RESEARCH
E. Kychanov. Unique Tangut Manuscripts on Moral and Ethical Regulations in the Tangut Society
V. Polosin. To the Method of Describing Illuminated Arabic Manuscripts

TO THE HISTORY OF ORIENTAL TEXTOLOGY
O. Akimushkin. Textological Studies and the “Critical Text” Problem

PRESENTING THE COLLECTIONS
M. Vorobyova-Desyatovskaya. The S. E. Malov Collection of Manuscripts in the St. Petersburg Branch of the Institute of Oriental Studies

ORIENTAL MANUSCRIPTS AND NEW INFORMATION TECHNOLOGIES
K. Lagally. Using TéX as a Tool in the Editing of Multi-Lingual Sources

PRESENTING THE MANUSCRIPT
I. Petrosyan. An Illustrated Turkish Manuscript of “Iskender-nâme” by Ahмеди

BOOK AND SOFTWARE REVIEW


Front cover:
Fol. 58a. Iskender and Gulshah, 10.7 × 10.9 cm.

Back cover:
Plate 1. Fol. 93b. Iskender Slaying a Dragon, 10.7 × 13.2 cm.
Plate 2. Fol. 140b. The Poet Almedd (?), 10.7 × 14.3 cm.
Plate 3. Fol. 249b. The Religious Dispute in the Presence of Sultan Orkhan, 10.7 × 14.7 cm.
Plate 4. Fol. 254a. The Murder of Sultan Murad I, 10.7 × 14.3 cm.