Ruling and Page Layout

A text might be copied for various reasons, and a student transcribing a treatise required for his studies would not proceed in the same way as a scribe commissioned by a prince to copy a fine volume of poetry. The final appearance of a manuscript very often reflects these different requirements, particularly in terms of the care given to the presentation of the text on the page. Indeed, differences between a working copy and a manuscript of high quality were already apparent in the preparatory stage, notably in the ruling of pages. Not all manuscripts were ruled; when close examination leads to the conclusion that no specific measures were taken to guide the writing, the codicologist should try to ascertain whether the copyist may have used a substitute – the laid-lines of the paper, for example – to organise the lines of text or whether he carried out his task without overly concerning himself with evenness. It sometimes happens that pre-ruled lines were disregarded. In one Paris fragment (BNF arabe 383a) the parchment was ruled with a hard point, but the lines were never used. Another copyist re-cut the parchment and then transcribed the Qurʾan onto it without regard for the ruled guides.\(^1\)

Apart from its usefulness in producing straight lines, ruling could help calibrate the length of a text. In a chapter of the Fihrist devoted to poets, Ibn al-Nadīm provides readers with a way of gauging works to be presented: ‘If we say that the poetry of a certain man fills ten leaves [ṣuraqāʾ], we mean Sulaymāniyya ones holding twenty lines – that is, on each side of the leaf [šī ṣafā ṣuraqāʾ].\(^2\) It is possible that the ruling methods described had already been standardised to some degree in the fourth/tenth century.

The decision to draw ruled lines is immediate proof of a scribe’s concern for page layout, a concern which in fact surfaced quite early in Islamic manuscripts, given that some copies of the Qurʾān written in the so-called Ḥāʾezil script – datable to the late first/seventh century or early second/eighth century – have

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retained the marks left by the hard-point tool used for that operation.3 The layout was still relatively crude, for the number of lines varied noticeably from one page to the next. But more complex ruling techniques, well known to copyists from other Middle Eastern manuscript traditions, were obviously mastered by Muslims beginning in the early second/third century or so, for they were soon able to produce sophisticated layouts. In a Qur'anic fragment from San'a (Dar al-Mahjútat Inv. Nr. 17-15 3), the copyist arranged the writing in such a way as to produce geometric patterns on the page.4 In another example, Istanbul fragment TIBM SE 562, the scribe began by carefully tracing the ruling pattern (see below); then, alternating the colour of ink according to a carefully devised system, he composed checkerboard— or diamond—patterns that stood out from the background thanks to their colour scheme.5

A scribe's intention to control page layout can therefore be determined through clues provided by ruling procedures or by unusual writing patterns. On the other hand, it is often difficult to ascertain the actual principle governing the copyist's choice of one layout over another. Formulæ devised by the more skillful practitioners for their fellow copyists might provide useful information on the proportions that were favoured at any given time; but, as we shall see below, only one text of this type has apparently survived— and even then its precise significance remains obscure. Another potential approach, therefore, entails examining manuscripts and attempting subsequently to re-establish, by deduction, the rules that underlay their production.

Ruling

Basic concepts

For anyone examining manuscripts, the most visible sign of a decision to organise the area of the page is undoubtedly the ruling, by which is meant the

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3 See, for example, the fragments Paris BNF Arabe 328a and 338b (E. Tissier-Lavergne, Spagnolo codicum orientalium [Bonn, 1954], p. 40b); G. Berengerzisser and O. Pretzl, Die Giatschthan des Konstantin, GLQ, vol. III (Leipzig, 1938), fig. 8; N. Abbott, The Rise of the North Arabic script and its Qur'anic development (Chicago, 1939) p. 24; Dèroche, Cat. III, p. 64, no. 7; F. Dèroche and S. Noja Noceda, edd., La manuscrit Arabe 328 (a) de la Bibliothèque nationale de France (Lessa, 1998).

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6 The term 'justification' has several meanings, of course, including— in the context of printed text— to adjust spacing along a line of text to a prescribed measure so that adjacent lines are of equal length. (The Shorter Oxford Dictionary.) 7 Michelle Brown defines bounding lines as 'the marginal lines supplied during ruling to guide the justification of the text and its ancillaries (such as initials).’ See her Understanding illuminated manuscripts: a guide to technical terms (Malibu, CA: London, 1994). 8 For example, MS Paris BNF Arabe 183 (FAMOD 31). 9 Exceptions exist, for example when the top line served as a ‘nadir’ rather than being written on. In one London Qur’an (D.N. Khalidi Collection Qas 4), the ruling for each line of writing consists throughout of three lines, the upper one marking the top limit of ascenders, thereby playing the role of line (D. James, Arabic Texts [London, 1992], p. 42, no. 9; the manuscript is tentatively dated to the period 1480-90). In an Iranian manuscript (sixteenth/seventeenth century) of the ma‘ṣūr of Tihr of Muhammad al-Majdhij, four lines were marked to guide the writing of the large hand reserved for the text of the Qur’an: two of them, above the ruling line, served to mark the height of the main body of the letters and the tallest ascenders, while a third one, below the ruling line, indicated the maximum limit of descenders; see The Qur'an, scholarship and the Islamic arts of the book: a further selection of fine manuscript material [Bernard Quaritch Ltd, unnumbered catalogue] (London, 1999) p. 20.
This way of measuring the height of a writing surface offers the advantage of providing a relatively reliable value for the height of individual lines, which is obtained by dividing the height of the total area (in this example, 25 cm.) by the number of lines minus one. Take, for example, a manuscript with eleven lines per page having a total text height of 25 cm.: 25 divided by (11–1) = 2.5 cm. per line. This figure constitutes the ‘ruling unit’. In fact, computing this value for two groups of palaeographically coherent series of early Qur’anic manuscripts, B II and D I, has revealed the specific characteristics of each one in terms of dimensions. Some manuscripts display the particularity of having been copied (though normally by a single抄寫員) in two or more different types of hand which may present perceptible differences in size; among the best known examples are Qur’anic manuscripts – especially those including a commentary and/or translation – and copies of the Burda, a religious poem by al-Būṣīrī. In such cases, the ruling unit of each hand should be noted.

Pattern of ruling
Patterns of ruling varied significantly across the Islamic world, especially during the period when parchment was used. Subsequently, the introduction of an instrument that made it easy to rule sheets of paper – the mistara, discussed below – led to a relative standardisation of patterns. Where manuscripts had horizontal guidelines to regulate the distance between each individual line of text, scribes might write so that letters either straddled the line or rested on it. Such guidelines were not always drawn, however; in the Maghrib, the two vertical lines marking the text area were often the only reference points employed by copyists.

Any visual trace of the ruling operation had to be as discreet as possible, while remaining distinct enough for the scribe to see. Methods that left visible marks on the writing surface were known (lead point or ink, for example), but those that only left indentations were less noticeable and therefore greatly preferred (illus. 63). With the latter method, a single operation produced the same pattern on both sides of the writing material, the implement leaving an indented furrow on one side and a raised ridge on the other. In contrast, ruling done in ink or pencil had to be repeated on each side; this made the task more laborious, but had the advantage that one could modify the layout from recto to verso.

Study of a manuscript therefore calls for meticulous examination of any lines on the leaves, since the rubbing and pressure produced by frequent use of a manuscript can reduce the trace of marks ruled in relief, especially on paper.


Special lighting is sometimes required to detect furrows and ridges. As pointed out above, it may reasonably be assumed that the ruling followed principles derived from overall page layout, since it is unlikely that the number of lines, the height of each line (or ‘ruling unit’), and the relationship between the height and width of the writing area were matters left to improvisation. It is therefore important that the codicologist note all these features accurately, for they may provide a better understanding of the copyist’s aesthetic concerns. It is nevertheless true that any trimming of manuscripts (during the process of rebinding or re-margining, for example) will have modified the dimensions of the leaves, thereby reducing the possibility of establishing the accurate ratio between overall format and text block.

Ruling in Arabic and Islamic manuscripts

As already mentioned, ruling was used by Muslim copyists as early as the first/seventh century. This makes it all the more curious to note the near-total absence of ruling marks on most Qur’āns written in early ‘Abbāsīd script on parchment.11 The regularity of the lines nevertheless implies that copyists employed some method for guiding their writing even though no vestige of it remains,12 which perhaps means that the marks were erased. One European treatise contains a recipe for a special ruling ink that could be erased with bread after use.13 For manuscripts written in Arabic script, paper became the most widely used writing material at an early date. This may explain the popularity of methods that left an impressed or scored mark on the surface, notably the miskara or ruling frame.

11 Two exceptions to this trend should be noted here: firstly, manuscripts on tinted parchment (notably the case with the ‘Blue Qur’ān’) display traces of an elaborate ruling pattern; secondly, illuminators often left preparatory ruling marks for the decoration of manuscripts that did not employ ruling themselves.12 According to E. Whelan (‘Writing the Word of God: some early Qurʾān manuscripts and their milieu’, Part I, Ars Orientalis 26 [1996], p. 115), the presence of ruling on decoration and, even more so, the tiny irregularities in the base lines of lettering are proof that text was never ruled, but that copyists relied on their eye. This argument does not seem to be decisive, however: ruling does not mean that a rule was used – a line traced on parchment (or paper) was only a guide and did not prevent hands from writing above or below it. Nor, for that matter, does a comparison between techniques used by illuminators and copyists seem relevant to resolving the question. 13 M. Dukan, La Bibliothèque des manuscrits ibériques au Musée Cognacq (Paris, 1988), pp. 15-16; the source is A. Piemontesi, De sacris libris spectum, 1 v. (Lyon, 1558), p. 316; see also The Secrets of the Reverend Maister Alexis de Plumen (...), trans. William Warde (London, 1558).

Scoring ruling

A hard point14 or fingernail15 could be used – with or without a straightedge – to score writing surfaces as different as parchments and paper. To the best of current knowledge, there is no indication that Muslim copyists took advantage of a hard point’s potential for scoring several stacked sheets of paper at once, the top leaf receiving a rather deep furrow whereas the bottom one would be less visible; this was common practice in Europe. On the other hand, the tools used for scoring ruling permitted a wide variety of lines, including circular shapes for decoration. This meant that copyists enjoyed great latitude. To establish a typology of such patterns would certainly be of interest, but research in this area is still at a very early stage so far as manuscripts in Arabic script are concerned. Another, rather crude method of scoring might be noted in passing: it involved folding the leaf along the vertical line of the outer margin. Ruling done with a hard point on parchment was frequently accompanied by ‘pickings’, holes made by perforating the parchment with the ruling tool.16 When made close to the outer edge of the leaf, these pickings were often removed during subsequent trimming operation.

The Missara or mastar

Another tool which scored the surface was used very widely for paper manuscripts, namely the missara (or mastar)17, a frame made of cardboard or occasionally of wood on which cords of various thickness could be stretched, corresponding to the text frame lines and guidelines.18 A copyist would place the missara beneath a sheet of paper and then rub his thumb along the cords, perhaps wrapping his thumb in a cloth to avoid soiling the paper; in this way, a light indentation was produced (illus. 53). Some scribes invariably placed the missara on the verso of the leaves of a quire, whereas others probably ruled across each bifolium successively; the difference can be observed by noting the respective positions of the furrows and ridges in the various quires. A missara offered extreme flexibility of use, since highly complex patterns of ruling could be prepared and then conveniently and quickly imposed on dozens of quires.

14 Hard points – also known as drypoints – were made of various metals. Some of the more malleable metals (lead, silver and so on) might leave traces on the writing surface, which would be erased on contact with air. Although the present writer has not positively identified any ruling done with the fingernail, al-ʿAlurai mentions it, advising copyists to be careful not to tear the paper. See F. Rosenthal, The Technique and approach of Muslim scholarship (Rome, 1947), p. 11. 15 Pickings also appear in manuscripts written on paper. These marks seem to be related to preparations for illumination in two Qur’āns, namely MSS. Berlin Museum für islamische Kunst Inv. Nr. 1.42/68 Museum für Islamische Kunst Berlin, Katalog 1979, 2nd edition (Berlin-Dahlem, 1979), pp. 9-11, nos. 1 and pl. 1 and Paris ENSI arabe 418 (Denoeux, Cat. II, pp. 128-129, no. 535 and pl. 1). 17 Gunckel, AMT, p. 68. 18 An eleventh/seventeenth- or twelfth/eighteenth-century missara is reproduced in New York 1994, p. 127, fig. 88 (Metropolitan Museum of Art, Islamic art, accession no. 1973.1). An Ottoman example is illustrated in U. Derman, ʿIṣbil, Sakıhsı balıkçıyımı (Istanbul, 1995), p. 23 A.
If necessary, the copyist could add further lines – with a hard point, for example – thereby employing what might be termed ‘mixed ruling methods’. The main ruling of the Tahâhid on al-Bosnî’s Burda in Paris BNF Arabe 6072 was laid out with a misâra, but the copyist then drew two vertical lines with a hard point to rule the areas reserved for the commentary; a similar method was used in MS. Brussels BR 1999, in which hard-point lines indicate the position of decorative elements. Some of the manuscripts of poetry studied by Paola Orsatti contain four or even six columns of poems, flanked by two smaller columns or diagonal margin lines. Many copies of works such as Nizâmi’s Khamsa or Five Poems (one example being MS. Geneva Bibliotheca Bodmeriana 538, dated 889/1484), feature three double columns of text. For works in mixed prose and verse, such as a copy of Nâmiri’s Mu’tâb (MS. Rome Accademia dei Lincei, Caetani 62), the ruling pattern done with a misâra includes two columns and a double margin, but the copyist only kept to it fully when transcribing passages in verse.

Other ruling techniques

The methods described above were not the only ones used by copyists. As already mentioned, scribes also employed ink or lead point. A Qur’ânic fragment dating from the late first/seventh century, now in Paris (BNF arabe 328c), features inked guidelines and a vertical outer margin line on the recto and verso of the leaves. This approach is not confined to the early period, for it was still used by the copyists of a Qur’ân (Paris BNF arabe 5388) in Sudan in the thirteenth/nineteenth century. Laid-lines, particularly visible in certain types of Eastern paper, also made it easier to write horizontally, although strictly speaking this cannot be termed a ruling technique, and their use as guidelines may have been limited to copies made for the purpose of academic study.

The description of ruling patterns: brief comments

Ruling was never practiced in a standardised way. Apart from the differences that arose from the choice of one method over another, the way the leaves were handled to conduct the operation might vary: in some manuscripts each folio was ruled one after another, whereas in others it was the open bifolium that received the ruling pattern. In the former case, the effect of the process was to leave the same mark – whether a furrow or a ridge – on the same side of every folio, either on the recto or on the verso, as can be seen for example in MS. Paris BNF arabe 5976. In the latter case, the person doing the ruling marked the lines on the same side of both halves of the bifolium. Using a hard point offered the possibility of tracing guidelines with no break in continuity between one half and the other, as is found in a Qur’ânic fragment on parchment (Istanbul TİEM SE 362) and a Qur’ân on paper (London M. D. Khalili Collection of Islamic Art Qsa 89 and 89a). The use of a misâra, however, seems to have required that each half be ruled separately. Once the quire was assembled and folded, any ruling marks made on an open bifolium would be inverted depending on whether a given leaf was located in the first or second half of the quire. This effect can be observed in MS. Strasbourg BNU 4252, where the furrows appear on the versos of ff. 1 to 5 but on the rectos of ff. 6 to 10.

In describing a ruling pattern, there is a standard formula which can readily be adapted to manuscripts written in Arabic script, taking into account the direction of reading from right to left. Thus the symbol / indicates the presence of a furrow on the recto of a given leaf, while > indicates a furrow on the verso. Consequently, the usual order of folios can be reconstructed, although the notation will read from left to right. For example, the sequence: >>>/>>>> means that the furrows are found on the verso all the way through the quire. To describe a quinion in which the furrows are on the recto in the first half, but on the verso in the latter half, the following formula is used: ><<<< / <<<>

(Folios 1–5 are placed to the left of the symbol indicating the centre of the quire, ff. 6–10 to the right).

Page layout

General comments

The arrangement of the various elements appearing on a page is known as the layout, or mise-en-page. Page layout therefore concerns not only the text, but also margins, decoration, and the relationship between these different elements. Examination of ruling patterns may provide clues to the intentions of the scribe (or illuminator), but it is important to proceed to study the entire page – and, indeed, the whole page when the manuscript is open, since makers of quality manuscripts seem to have placed special emphasis on the overall visual


27 Déroche, Abhădū Qulī, p. 160. 28 FIMMAD 195. 29 Mazarro, Dictionnaire arabe de nomenclature as ‘la procedure employée to obtain a ruling pattern on every leaf of a quire, the pattern being traced either on each folio or on each bifolium’; see his Vocabulaire, p. 104.
impression. But it is very often the case that the proportions of the folio, and the proportions of the text area in relation to them, have been altered owing to trimming of the margins, and this can greatly complicate any analysis of mise-en-page.

Little research has been devoted to the important question of the format of manuscript folios, although some interesting results have been published for manuscripts from later and better documented periods. Analysis of the volumes produced in the Topkapi Palace workshop between 1520 and roughly 1630 reveals the existence of three formats (25.5 x 16 cm.; 35 x 25 cm.; and 44.5 x 31 cm.). The passage by Ibn al-Nadim quoted at the start of this chapter suggests that the notion of standardised formats had acquired its full meaning by the fourteenth century.

Various approaches to layout

Textual sources

When addressing this crucial topic, codicologists might expect to glean information from Arabic and Islamic sources. Yet despite abundant literature on calligraphy and, to a lesser extent, on painting, only one text is currently known to provide any kind of answer to the specific question of mise-en-page. It includes a formula for establishing a page layout, preserved for posterity by al-Qalabi, an Andalusian scholar of the second half of the seventh/eighth century. His text was brought to light and translated into French by Yvette Sauvan, but the transmission of the text seems to have been imperfect: part of the method of the was apparently omitted or distorted. The paper is folded lengthways; the fold serves as a guide to fix the margin, which is defined by the line linking two points pricked with a compass on the two edges of the sheet. There are two margins running widthwise, starting from the prickings of the first two points; heightwise, the upper margin is parallel to the lower margin. The block of text is divided into two parts, determined by the which is obtained [as follows]: mark a point parallel to the point marking the middle of the line traced lengthways, based on three semicircles,

30 Z. Tawfiq, 'Manuscript production in the Ottoman Palace workshops', AMMF 5 (1990-1993), p. 70 and fig. 23. 31 MS Paris BNF arab. 8044, f. 120; see Y. Sauvan, 'Un trait à l’usage des scritors à l’époque naskhi', Ms. du Msn, pp. 49-50. See also F. Chatbouci, 'Two new sources on the art of mixing ink', Codicology, pp. 69-76.

Examination of manuscripts

Examination of the manuscripts themselves, meanwhile, may provide evidence of ways in which the illumination or even the text of a carefully produced copy occupies a space whose overall proportions and subdivisions were based on a precise standard unit. Such an examination, although complicated to carry out, has been undertaken on MS. Paris BNF suppl. persan 226, enabling Chahyra Adle to identify a standard unit, itself a multiple of the ‘point’ which is, as we know, the basis of the calligraphic construction of handwriting. Just as the forms and proportions of calligraphic letters are based on the area of a point drawn by applying the tip of the reed pen to the paper and moving it vertically a distance equal to its width, Adle showed how, according to the words of text, the standard unit he discovered corresponded to ‘drawn elements’. His study thus defined a parameter that may serve, in a way, as a common denominator between the various elements in a book.

Special proportions

The above examples reveal the importance of the geometric construction of page layout. Study of the manuscripts themselves proves that makers of books possessed the basic tools for constructing these figures: the ruling of the decoration of a third of a century took place (Istanbul TIEM SP 7, f. 2) was produced partly with the help of a compass. A straightedge, one of the tools used by calligraphers, was used not only in drawing guidelines but also, in North African and Andalusian Qur’ans, to link the letter to the letter in the word (the barmah). As Valery Polosin has suggested, the taste for enigmas displayed by highly cultivated readers probably spurred artists to produce illuminations whose proportions were based on special formulae. Copyists themselves were certainly sensitive to questions of balance and ratio – although the overall dimensions of the leaves were partly determined by outside factors, the mise-en-page itself came more directly under the copyist’s control. A professional scribe or calligrapher was probably able to appreciate the more or less felicitous nature of certain ratios, and he certainly possessed the means – theoretical and material – to decide how much of the page surface to use, and in what proportions.

At the time of writing, little research has been undertaken into the proportions of the text area in Arabic and Islamic manuscripts. Apart from Adle’s observations, mentioned above, a study of a series of Qur’anic
manuscripts from the third/ninth century has revealed the constancy of a ratio of 0.66 (in other words, 2/3) between the height of the writing space and the height of the page.\textsuperscript{35} Two rectangular figures in particular are noteworthy: the golden rectangle and the Pythagorean rectangle. The first, based on the Golden Section, begins with a line segment AB; another segment, perpendicular to the first and starting at A, is then drawn, this line (AM) being one half the length of AB (AM = AB/2); one of the two points of a compass is then placed on point M, the other on B, and the compass is rotated from B until it intersects the perpendicular axis extending below AM, establishing point C (MC = MB; line AC = AM + MC). To complete the rectangle, point D merely needs to be located on a line segment perpendicular to B, so that BD = AC. In rectangle ABCD, then, the ratio of width to height (w/h) is 0.618, while that of height to width (h/w) is 1.618. In the Pythagorean rectangle, the sides have a w/h ratio of $\sqrt{5}$, that is to say 0.75 (h/w being 1.333).

Another way of obtaining a special figure involves diagonals. The initial figure is a square with side $a$. The square is extended into a rectangle whose length is equal to the diagonal of the square. While maintaining the width $a$, new rectangles are constructed with lengths equal to the diagonal of the previously constructed rectangle. The long side of the first figure is equal to the product of width $a$ multiplied by the square root of 2 ($a\sqrt{2}$); that of the second equals $a+3$; that of the fourth, $a+4$; and so on. Interestingly enough, the ratio between $a$ and $a+2$ is that of the modern European paper formats A4 and A3: the height of a sheet is equal to the diagonal of the square formed by its width.

<table>
<thead>
<tr>
<th>Ratio of sides</th>
<th>Min/Max values</th>
<th>Special figure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.68/1.02</td>
<td>Square</td>
</tr>
<tr>
<td>1.236</td>
<td>1.21/1.28</td>
<td>Two golden rectangles, side by side</td>
</tr>
<tr>
<td>3.333</td>
<td>1.30/1.355</td>
<td>Pythagorean rectangle</td>
</tr>
<tr>
<td>3.688</td>
<td>1.34/1.395</td>
<td>Pythagorean and golden rectangles side by side</td>
</tr>
<tr>
<td>3.644</td>
<td>1.36/1.442</td>
<td>Rectangle of dimensions $a \times a\sqrt{2}$</td>
</tr>
<tr>
<td>1.5</td>
<td>1.47/1.530</td>
<td>Double Pythagorean rectangle</td>
</tr>
<tr>
<td>1.618</td>
<td>1.58/1.650</td>
<td>Golden rectangle</td>
</tr>
<tr>
<td>1.732</td>
<td>1.68/1.766</td>
<td>Rectangle of dimensions $a \times a\sqrt{2}$</td>
</tr>
<tr>
<td>2</td>
<td>1.96/2.040</td>
<td>Double square</td>
</tr>
</tbody>
</table>

In practice, the codicologist must allow for both a certain degree of approximation when it comes to determining the page layout used by mediaeval copyists, and also variations due to the writing surface itself (for example, shrinkage in parchment). Specialists in Latin manuscripts recommend allowing deviations of 2% from rigorously calculated ratios. Thus the tolerated ratio for the Golden Section, whose precise value is 1.618, ranges from 1.586 to 1.650.\textsuperscript{36}

This line of research needs to be conducted with care. Besides the fact that other formula may have been used, the chart above reveals overlapping ratios that may lead to confusion. In practice, when examining a manuscript, it is easy to determine whether this approach should be adopted by simply dividing the height of a given figure by its width; the quotient thus obtained can then be compared to the figures given in this chart, taking into account the permitted deviation of 2%.

**Units of measure**

In the mediaeval West, copyists were aware of the proportions discussed above, and constructed ruled areas and other units with tools such as the compass and straightedge. Sometimes they also developed ruling patterns by employing units of measurement commonly used in their everyday environment. The codicologist may therefore find that one or both of the lines defining the text area of the page have values corresponding to any of the measurement systems that were in general use at a given time and place.

This line of research has not yet been exploited in the field of Arabic manuscripts, except for another article by Valery Polosin which focuses on illumination.\textsuperscript{37} Codicologists should therefore be attentive to this factor while remaining cautious in the way it is applied, as Jacques Lemaire has stressed.\textsuperscript{38}

**The arrangement of lines**

The oldest manuscripts in Arabic script—Qu’ran sur written in Hijazi script, datable to the second half of the first/seventh (or early eighth) century (Illum. 64)—show that the earliest copyists opted for long lines, as is illustrated by MSS. Paris BNF arabe 328A\textsuperscript{39} and London BL Or. 2165\textsuperscript{40}. The same applies to non-Qur’anic texts, as can be seen in the first dated manuscripts from the third/ninth century.\textsuperscript{41} Subsequently, the tradition of manuscripts written in Arabic script remained basically faithful to this model, and the length of lines

\textsuperscript{35} Déroche, *Mis de MO*, p. 103.

usually stayed constant throughout a manuscript. Polonski’s research on text
density shows that, in the examples studied, the number of letters per line and
per page remains relatively stable. Variations and divergences from this rule
nevertheless exist, and should be noted when they occur: in describing a
manuscript it is advisable at least to state the minimum and maximum number
of lines per page.

Poetry represents an exception to the rule of long lines. Given its structure
and its use of rhyme, poetry favours an arrangement that underscores these
recurring features. Poetry is therefore usually laid out in two or more columns
(Illus. 65); the use of a frame (jādaqā) to highlight more effectively the division
of textual components was apparently introduced in areas of Persianate
culture. In Christian Arabic manuscripts the text is also sometimes arranged
in columns, although for totally different reasons.

As a general rule, lines of writing run perpendicular to the gutter margin—
which is simply to say that the lines of text are horizontal (Illus. 40 and 64).
Exceptions do occur, however, especially in manuscripts of poetry: one Persian
anthology (MS. Paris BNF suppl. persan 1473) has three columns, the one
nearest the outer margin containing diagonal lines; the same diagonal writing,
across one column this time, was used by the copyist of Kāṭibī’s Ḥusaynī
(MS. Paris BNF suppl. persan 1776), with one line of text written vertically to
the left of that justified column (Illus. 66). There are also other texts in which
copyists decided to arrange the lines diagonally; whereas manuscripts of Ḥadīth
works with a Persian translation in verse may be related to the poetic tradition,
a copy of Shāhī Aḥmad al-Zarrūq’s Shahr al-Ḥikam al-Muḥtāva (MS. Tunis
BN al-Abdaliyya 3616/12326) is notable for the diagonal layout of the entire
text.

When a scribe planned to write a second or even a third text in the
margin, and prepared a musāra to that effect, the layout will reflect adaptations
required by the constraints of the limited space available; for instance, the lines
reserved for text are generally diagonal, although this is not always so. Quite
often, copies of the Qur‘ān (e.g. BNF arabe 4955) are accompanied by a saffīr
(commentary) whose text is written on diagonal lines traced with a musāra
prepared with the pattern for the layout of the entire page. The same applies
to manuscripts of other kinds containing more than one text.

42 V. Polonski, “Arabic manuscripts: text density and its convertibility in copies of the same
work”, *Manuscripta Orientalia* 3/2 (1997), p. 3-17. 43 Orsatti, op. cit., and *Le manuscrit et
le texte: éléments pour une interprétation du manuscrit dans la poétique lyrique persane*, Scrinos,
p. 291. See also the chapter below on “Books and their ornamentation”. 44 An example can
be found in a manuscript of al-Ḥusayn al-Bakri (MS. Paris BNF arabe 181; FAMFOD 31).
114). 47 Chabot, *Le manuscrit*, no. 47. 48 Cat. 1/2, pp. 141-142, no. 558; see also
Riyadh 1986, pp. 160-161, no. 94 (MS. Riyadh Kag Pascal Center 2629).
Paris, BNF suppl. persan 822, f. 430.

Paris, BNF suppl. persan 1776, f. 2.
Variations

At an early date – during the second half of the third/ninth century or the beginning of the fourth/tenth – scribes began looking for ways to lighten the justified blocks of text of Qur'ān copied in a small hand now designated as F 1. 49 Several manuscripts written in this style are noteworthy for the fact that one of the lines on the page, often the middle one, contains only a few letters, most of the space being occupied by an extended ligature. This style is probably the one noted by Joseph Schacht in legal manuscripts copied by a certain scribe at the Great Mosque in Kairouan around 400H/1010: several of the manuscripts studied by Schacht display a block of text that is "cut" in two equal halves by a line (or part of a line) left blank, yet without any lacuna in the text. 50 This type of composition was made feasible through the calligraphic technique of mashq, which means extending the base line that links the connected letters of a word (or even certain independent letters). 51 Thus one or more lines on the page (sometimes the middle line, sometimes the first and last lines, and sometimes a combination of the two) contain a limited number of letters connected by a very long stroke or strokes. In manuscripts, this feature is most commonly to be seen in the opening Basmala of a Qur'ānic sura, or indeed of a complete text of any kind.

Copyists also exploited the possibility of changing the size, or even the style, of a script from one line to the next. The first known attestation of a technique that involved alternating two series of lines in a small hand with three lines in a large hand can be found in a Qur'ān dated 582/1186 (MS. Dublin CBL 1478). 52 This technique does not, however, imply a hierarchy among the various elements, unlike certain manuscripts in the National Library of Tunisia (MSS. 3357 1/2 and al-Sādiqiyā 263/1044 1/4); nor does it lead to confusion with titles and headings or other ways of organizing the flow of the text and guiding the reader.

54 At the time of writing, no example of this type of layout, found on fragments in the 'Documentary Papers' collection at the Museum of Turkish and Islamic Art in Istanbul, has been published. 50 J. Schacht, 'On some manuscripts in the libraries of Kairouan and Tunis', Archäol. 14 (1967), p. 225. 51 In this context, mashq refers to a technique rather than to a style of writing. This usage in commentaries – often critical – is found in Arabic sources, for example al-Sālih, Abu al-ḥarith, edited by M.B. al-Attarī, revised by M.Sh. al-Idnī, (Cairo, 1341/1922), p. 55-56, mashq as a style of writing is connected by Ibn al-Idnī, (op. cit., ed. F. Flörer, p. 6, ed. T. Sīdūrū, p. 8, and D. Doodle, p. 8, p. 11). 52 James, G. & R., p. 35, no. 20. 53 Chambert, La manuscrit, p. 22 and colour plate. In this manuscript, dated 600/1205, pious phrases and Hadiths are written in gold. 54 Op. cit., p. 16 and pl. 7; in the reproduction of this manuscrit, dated 550/1155, quotations from Qur'ān IV, 24 stand out thanks to a change in writing style. The same technique can be found in a manuscrit copied in 481/1090 by Uthmān ibn al-Jaušya al-Wardī (see F. i d S. Illyid, pl. 4), 49 See reproductions in D. James, Qur'ān of the Mandala (London, 1988), pp. 92-98. 55 The state of the oldest Arabic manuscripts – all of them Qur'ān – makes it impossible to determine whether or not they originally had margins worthy of that name. By way of example, see W. Wright, op. cit., pl. LIX, or E. Dénche et S. Noja Nueda (eds.), op. cit. (1998 and 2002). 57 See Chapter 'The Writing surface: paper'.

Marzūs

The foregoing discussions have already hinted at the importance of margins, an area of the page that experience shows to be highly vulnerable. Heavy use of a manuscript can lead to discoloration, wear and tear, while restorations can occasionally damage, reduce, or even completely eliminate the margins. In the latter case, it becomes impossible to reconstruct the original layout; this applies, for example, to two highly important early copies of the Qur'ān (London BL, Or. 2165 and Paris BNF arab. 324) where the text now runs practically up to the edge of the page. Today it is difficult to know whether early Muslim copyists left large margins, because although in their current state the oldest Qur'ānic fragments display a limited space around the block of text it is quite possible that they were trimmed at a later date. 56

In any case, makers of books soon realised the potential afforded by margins for accommodating items complementary to the text. The oldest illuminations, found in Qur'āns, are sometimes located in the margin – often the outer margin, but occasionally also the gutter margin – where they stand out more clearly, thus fulfilling more satisfactorily their function as markers. Later, artists began using the margins of the page in striking ways; in deluxe manuscripts, margins offered prime territory to illuminators and decorators. The sīdūrū technique in particular favoured the use of a wide range of decorated papers (illus. 15). 57

55 See reproductions in D. James, Qur'ān of the Mandala (London, 1988), pp. 92-98. 55 The state of the oldest Arabic manuscripts – all of them Qur'ān – makes it impossible to determine whether or not they originally had margins worthy of that name. By way of example, see W. Wright, op. cit., pl. LIX, or E. Dénche et S. Noja Nueda (eds.), op. cit. (1998 and 2002). 57 See Chapter 'The Writing surface: paper'.
Margins were not, however, the sole preserve of illuminators and artists, for they also played host to notes, glosses and commentaries. A scribe may have anticipated these additions from the start, as it is sometimes implied by the size of the margins around the main text area; but they were often the work of a later reader. Although certain medial authors such as al-Amuli advised limiting the extent of marginal notations in order to prevent text from encroaching on the entire page, there are manuscripts in which every available nook and cranny is laden with words. One copy of the Qur’anic commentary Ansâr al-tanzâl wa-ta’air al-ta’âwil (MS. Riyadh King Faisal Centre 4249) is noteworthy for the way the margins are inundated with writing, without any discernible regard for page layout. A manuscript of Imam al-Lu’î (MS. London BL, Add. 1682a), by contrast, stands out in the way notes on various points in the marginal commentary are arranged like veritable picture-poems.

Sample page layouts

For the reasons explained above, it is not possible at the present stage to do more than offer a few examples of page layout, in an effort to provide an idea of the ways copyists exploited the space available to them. Manuscripts that contain paintings or many tables and figures raise specific issues that cannot be dealt with here; the examples cited below basically concern high-quality copies of texts, although some of the same approaches can be found in more modest manuscripts.

A few special layouts have already been mentioned – early ‘picture-poems’ reveal a concern for the aesthetic appearance of the page was present from the outset. A fragment in Istanbul (TIEM, SE 362) proves that the copyist only took one page at a time into consideration. It was only later that scribes began to approach layout in terms of double pages, as revealed by tentative efforts in the third/ninth century to balance the presentation of the end of Qur’anic manuscripts. A fragment from that period (MS. Istanbul TIEM SE 2002, II. 4 v’–7 v’) attests to the copyist’s effort to place the titles of the sûras in symmetrical positions over four double pages, even though the illumination did not take this into logical conclusion. The quest for symmetry in this and other details was later to be pursued with great tenacity, finding its most unusual expression in manuscripts of Ottoman production or inspiration. The scribes of MSS. Istanbul TIEM, 469, London N. D. Khali.

Collection QUR 337 and Tunis BN 14246 even managed to situate the same word(s), written in red, on the same line of both the right and left hand pages, in the same position relative to the gutter (illus. 40). In Sûne XXVI, al-Shari’ah, entire passages of the text are arranged symmetrically in the same way.

This latter example underscores the role of page layout in the attempt by Islamic scribes to standardise the production of manuscripts. The arrangement described above was based on the division of the Qur’anic text into units of identical size, a task accomplished by Ottoman copyists who, starting with the standard breakdown into juz’ and hizb, managed to define pages of fifteen lines in a format that is often close to 19 x 12 cm. With the exception of initial and final pages, decoration itself (framing, text divisions, etc.) was also relatively standardized. Other widely disseminated texts, likewise, were often standardised in aspects of their page layout. Sellheim has analysed a group of six copies of al-Naqší, mutabbir kitâb Wâqiyat al-nawâiy bi mas’ûlî Hidâya Bayd sadr al-Shari’ah al-Thâni (a popular commentary on a standard textbook of Hanafi jurisprudence), all of which were written in the thirteenth/nineteenth century and display strong resemblances. He concluded that they may have been copied by several scribes from the same manuscript or khabâ ‘all (Sufi centre) in Central Asia, perhaps in Buhîrâ or Samarkand.

The outline of the justified text block is generally rectangular, except in a few early Qur’ans in which it is almost square (also noted in some Maghribi Qur’ans). It was perhaps an effort to avoid overly repetitive layout that led copyists to become interested in alternating the size and type of script within a page. Beginning in the early eighth/nineteenth century, notably in the Persian sphere of influence, many Qur’ans feature three lines in a large hand (each one generally set within a decorative band), usually located at the top, middle, and bottom of the page; two blocks of text in a smaller hand, normally written in black ink, are placed in the space between each pair of larger lines, usually in coloured ink (blue or gold).

65 Sellheim, Manuscri, pp. 125-127. The manuscripts are studied in the Staatsbibliothek in Berlin (MSS, Or. 470, 1762, 1770, 1771, 1773, 3533). They measure between 23 x 15 cm. and 26 x 15.5 cm. and contain seven lines per page (except Or. 1762, which contains nine lines) written in hands belonging to the same script tradition. 66 This is notably the case with Qur’anic fragments written in style B (for example Paris RNF, fol. 327 whose text area, measured according to the method described above, is 220 x 225 mm.; see Déroche, Cat. 1, p. 68, no. 19 and pl. IV, A). The square format of Maghribi Qur’ans written on parchment is sufficiently common to require no further discussion here; see for instance F. Déroche, "Les ders et retouzes: format et décor des corans maghrébins médinaux," Académie des inscriptions et belles-lettres, Compte rendu des séances de l’année 2001, p. 593-620.
Small, octagonal Qur’an manuscripts represent an exception to the usual layout of text: owing to their unusual format, the text area is sometimes circular and sometimes (more rarely) octagonal.\textsuperscript{68} Colophons were occasionally arranged in a special way (illus. 67 to 71). In particular, they were frequently written in a triangular block at the end of the manuscript (illus. 69); in fact the downward point of the triangle is often truncated, producing a keystone-like form. An early example of this practice can be seen in a London manuscript dating from 626/1229 (BL, Add. 5965, f. 88 v), although the colophon in a 488/1095 copy of Kitab al-Lunus fi l-nahw by Ibn Jinnî (Berlin, SB Or. oct. 3538, f. 70) may represent an earlier phase of evolution towards this triangular layout; both manuscripts seem to have originated in Iran. Later, colophons appeared in more varied shapes such as a circle (MS. London, N.D. Khalili Collection QUR 27, dated 1213/1798-99\textsuperscript{69}), a multifoliate mandorla, (Tabrizi Collection, no. 51, dated 1227/1812-13\textsuperscript{70}), and many others.

\textsuperscript{68} Both types of text block appear side by side in a manuscript in the catalogue of a Sotheby’s sale on October 16, 1996 (lots 25 and 26).\textsuperscript{69} Roger, 2000, p. 70, no. 31.\textsuperscript{70} M. A. Karimzadeh Tabrizi, Majnl manuals-hakem name, the most unique and precious document in Ottoman calligraphy (London, 1999), pp. 125-126.

Craftsmen and the Making of the Manuscript

In the context of a general introduction to the codicology of Arabic and Islamic manuscripts, it may appear superfluous to discuss the working practices of copyists. In the first place, this aspect of book production is not always easy to discern in the finished product since a number of basic facts — such as who was to receive the work, how long it took, and where it was undertaken — often remain unknown. In addition, illustrations of specific points are frequently taken from literary sources or, more occasionally, from archives, and still have to be compared with the facts as they transpire from the manuscripts themselves. And lastly, the preceding chapters have already detailed many of the operations involved in the making of books, and thus introduced the reader, to a certain extent, to the tasks of the copyist. Moreover, colophons, which could at least potentially provide compelling evidence in this connection, call for separate treatment and accordingly will be dealt with below. It is nevertheless worthwhile while drawing the attention of researchers to the importance of this question in the broader context of the history of the Islamic book. The aim of the following pages is little more than to present a succinct account of some of the more important advances in contemporary research.

The identity of the copyists

Who, then, were the men, and sometimes women,1 who lavished effort and patience on the time-consuming task of copying manuscripts? Colophons are generally speaking so sparing of details that, unless they provide the name of a specific individual — author, scholar, physician, or other — already recorded in other sources, they are of little help in determining the identity of the person who transcribed the text. In the absence of catalogues of dated manuscripts