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## 1 Vocabulary and images as tools

### 1.1 Terminology

With the exception of the simplest one-gathering structure covered with a paper wrapper, all bookbinding constructions are rather complex, and even in describing the simplest structure some terminology is unavoidable. It is therefore necessary to use a common vocabulary, irrespective of the exact context in which books are described; a common vocabulary is relevant for cataloguing, for writing condition reports and conservation treatment reports, as well as for texts accompanying exhibited items and catalogue texts.

Terms to describe Islamic manuscripts originated in several languages, of which Arabic, Persian and Turkish are the most prominent. This complicates the matter of vocabulary. Moreover, even the terminology in the primary Arabic sources is not unequivocal and leaves room for interpretation. These differences in vocabulary and its falling out of use in modern Arabic works on bookbinding have been pointed out by Adam Gacek several times.<sup>1</sup>

Some of the binding elements are so characteristically Oriental that they do not occur in Western binding structures or decorative schemes. Hence, not every term has an equivalent in English. However, since English has become the vehicle for international communication in this field, a more pressing need for a common vocabulary has arisen. For want of such a terminology, many have resorted to terms widely used for Western books. Such terms originate from Western primary sources on bookbinding or were developed to facilitate Western bookbinding description. Therefore, some of these borrowed terms have such strong connotations of techniques or decorative forms typical of Western bindings, that they are not functional or suitable for describing Islamic manuscripts.

We can see this for example when the covering schemes of leather and partial leather bindings are discussed. Full leather bindings were the most common in the early centuries of Islamic bookbinding, but from the sixteenth century onwards and perhaps even earlier, binders started to combine leather with other materials like paper or textile. The majority of these partial leather bindings have leather strips on all board edges, a leather spine and a leather fore-edge flap, although sometimes leather strips on the front-edge of the flap or the horizontal edges are omitted. [figs. 7-9] The term *half leather* should be avoided because it brings to mind the Western half leather binding which has a very different layout, with a leather spine and leather corners. That design is almost never found on partial leather bindings in the Islamic bookbinding tradition. In contemporary Turkish bookbinding the term *çaharkuşe* (shortened form: *çarkuşe*) is used, from Persian *chahâr*, 'four', and *gûsheh*, 'corner': four-cornered, quadrangular. The term is found in *Türk hattatları* ('Turkish calligraphers'), a work by Şevket Rado (1984): "Cildin kenarları deri ile kaplanmış ve ortası 'ebrî' denilen kâğıtla örtülmüşse, bu cilde 'çarkuşe cilt' ... denilmiştir." ("If the edges of a binding were covered with leather, and the area in between was covered with the paper called 'ebrî' ['marbled'], this binding was called 'four-cornered'.")<sup>2</sup> The use of the term *çaharkuşe* is also quite common in the Union catalogue of manuscripts in Turkey, *Türkiye yazmaları toplu kataloğu*, but it is

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<sup>1</sup> See A. Gacek, 'Arabic bookmaking and terminology as portrayed by Bakr al-Ishbili in his *Kitâb al-taysîr fî şinâ'at al-tasfîr*' (1990-1991), pp. 106-107; and 'Ibn Abi Hamidah's didactic poem for bookbinders' (1992), pp. 41-43. Furthermore, in his *glossary* Gacek gives the different Arabic terms for the envelope flap to illustrate the existence of synonyms: "we find *udhn* (Andalusia, North Africa), *marji* (Morocco), *lisân* (central Arab lands), *miqlab* (Levant, Iraq), *raddah* (Levant), and *sâqîtah* (Yemen)"; A. Gacek, *The Arabic manuscript tradition. A glossary of technical terms and bibliography* (2001), p. xv.

<sup>2</sup> S. Rado, *Türk hattatları* (1984), p. 162.



Fig. 7. Or. 206. A çaharkuşe, or partial leather binding. All board edges are covered with leather, the board panels are covered with dyed paper and leather overlays, with blind tooled medallions.



Fig. 8. Or. 872. A partial leather binding, without a leather strip covering the edges of the envelope flap. The boards are covered with marbled paper, for the envelope flap two pieces were used.



Fig. 9. Or. 795 (1635, Damascus). A partial leather binding without leather strips covering the head and tail edges. The fore-edge of the front board is covered with a strip of leather, however, the fore-edge of the envelope flap is not, instead, the paper covering is turned-in.



Fig. 10. Or. 2089. A full leather binding, with a tab extending at the head of the spine.



Fig. 11. Or. 1210. A full leather binding, detail of the tabbed spine.



Fig. 12. Or. 1070. A full leather binding; the leather of the spine-end at the head shows a straight cut edge.

apparently used for the leather edges only, not as a term for this particular type of binding.<sup>3</sup> It appears to be absent in other twentieth-century Turkish catalogues, as well as in recent reference works such as Duncan Haldane's *Islamic bookbindings in the V&A* (1983) and a work that features quite a few *çaharkuşe* bindings with textile panels, *Turkish bookbinding in the 15<sup>th</sup> century*, by Julian Raby and Zeren Tanındı (1993).<sup>4</sup> When the word's currency is checked in dictionaries it appears that neither Steingass (Persian) nor Redhouse (Ottoman Turkish) mentioned it as a technical term connected with bookbinding.<sup>5</sup> However, Adam Gacek affirmed the term *çaharkuşe cild* for bindings with spine and edges covered in leather.<sup>6</sup> It is also mentioned by the Turkish conservator Nil Baydar in an overview of binding types.<sup>7</sup> In the case of this specific term, a direct English translation would not be accurate; 'four cornered' is precisely what these bindings are not. A descriptive phrase such as 'leather frame binding' is an option and 'leather-edged binding' has been used,<sup>8</sup> though I prefer 'partial leather binding' as many bindings with this type of covering do not have all their horizontal edges covered. As a consequence, with those bindings the leather does not actually form a frame nor are the boards fully edged.

Another example of the inappropriateness of Western terminology is the use of the term 'cap' or 'endcap'.<sup>9</sup> It points at a technique used in Western bookbinding, where caps are formed when the leather covering material at head and tail of the spine is turned in, not only over the board edges but also on the spine itself.<sup>10</sup> However, in the Islamic binding tradition the leather at head and tail of the spine is not turned in, but either extends or is cut flush with the board edges.<sup>11</sup> [figs. 10-12] Therefore, the term cap is not appropriate and when a glossary

<sup>3</sup> S. Bayoğlu, *Türkiye yazmaları toplu kataloğu* (1979-2002). I am thankful to Arnoud Vrolijk who explored these Turkish sources and kindly made the translation.

<sup>4</sup> D. Haldane, *Islamic bookbindings in the Victoria and Albert Museum* (1983); J. Raby, and Z. Tanındı, *Turkish bookbinding in the 15<sup>th</sup> century: the foundation of an Ottoman court style* (1993).

<sup>5</sup> F. Steingass, *A comprehensive Persian-English dictionary: including the Arabic words and phrases to be met with in Persian literature* (1977); J.W. Redhouse, *A Turkish and English lexicon: shewing in English the significations of the Turkish terms* (1978).

<sup>6</sup> A. Gacek, *Arabic manuscripts. A vademecum for readers* (2009), p. 27 and pp. 118-119 deal with 'half-bound books'. Although it is true that books in the eighteenth and nineteenth centuries are frequently covered in partial leather, according to the survey findings the occurrence of *çaharkuşe* bindings is already significant in the sixteenth century; see Chart 6, Part Five, paragraph 4.1.

<sup>7</sup> N. Baydar, 'Conservation aspects of Ottoman period manuscripts: binding decoration and hand tools for making bindings' (2005), pp. 194, 206.

<sup>8</sup> Nicholas Pickwoad introduced the comparison to a frame, when he describes the occurrence of a similar covering style in the eighteenth century in England, for which first parchment was used and later on also leather, to cover the spine, fore-edges ('foreedges' is used by Pickwoad) and head and tail, "to create a frame filled in with marbled or coloured paper", see: 'Bookbinding in the Eighteenth Century' (2009), pp. 274, 280. Jake Benson uses the phrase 'leather-edged', see: 'Satisfying an appetite for books. Innovation, production, and modernization in later Islamic bookbinding' (forthcoming).

<sup>9</sup> The term 'endcap' is employed in the much used and reproduced "diagram giving the terminology for the constituent parts of Islamic books in codex form" in G. Bosch et al., *Islamic bindings and bookmaking* (1981), p. 38; it is also included in the present study, Part Three, paragraph 3.1.

<sup>10</sup> M.T. Roberts and D. Etherington, *Bookbinding and the conservation of books. A dictionary of descriptive terminology* (1982), p. 130: "headcap: The leather covering at the head and tail of the spine of a book, formed by turning the leather on the spine over the head and tail and shaping it"; B.C. Middleton, *The restoration of leather bindings* (1998), p. 26: "headcap: The visible portion of the fold of leather where it turns in at the head and tail of the spine"; J. Greenfield, *ABC of bookbinding. A unique glossary with over 700 illustrations for collectors and librarians* (1998), p. 36: "headcap: The leather turned in and shaped at the head and tail of the spine"; W.K. Gnirrep, J.P. Gumbert, J.A. Szirmai, *Kneep en binding* (1992), p. 85: "kapje: De omgezette rand van de rugbekleding (met ruginslag)" ("cap: The folded edge of the covering spine with turn-in").

<sup>11</sup> The only exception is found in Indonesian bindings, where turn-in leather spine-endings are fairly common. This will be further discussed in Part Five, paragraph 5.3.

for conservators of Islamic manuscripts was compiled (which will be elaborated on below), the term 'tab' was introduced to describe the typical Islamic spine-endings with extending pieces of leather.<sup>12</sup>

A further problem is that some terms are used differently in related fields, consequently causing much confusion. The term 'textblock', for example, indicates to conservators the whole volume without its binding, while art-historians usually apply the term to indicate just the part of the page that actually contains text, without the margins, the part which conservators would call the text-panel or text area.<sup>13</sup> Misunderstandings also originated from inaccurate use of certain terms. This is illustrated by Paul Hepworth:

In a condition problem familiar to scholars of Islamic manuscripts, the green paint used in the framing lines around the text or miniatures in numerous Islamic manuscripts causes breaks and losses in the support below the paint. Such green paint is often referred to as Verdigris [...] in conservation reports. This designation seems to be a carry-over from the conservation of Western manuscripts, since verdigris is a green paint used in miniatures in these manuscripts where it causes the described damage. Moreover, the manufacture of verdigris is also described in Western primary sources, so its use in the West is well documented. Accordingly, it must have seemed logical to assume that damaging green paint in Islamic manuscripts was also verdigris. However, verdigris is the name given to paint made specifically from copper acetate. In the past 15 years or so, analysis of paint has become much more sophisticated and informed and many green paints have been found that do contain copper and do cause damage to the support but are not necessarily copper acetate. A piece of copper buried in camel dung over which vinegar is poured would undergo complex chemical reactions different from copper treated with yoghurt. Yet these are two recipes for preparing the green pigment used in Islamic manuscripts listed in primary sources. Consequently, in writing condition reports, the impulse to give a definite name to some material should be resisted unless analysis has actually been carried out to warrant the use of that name. It is more accurate and consistent with what is known at present to say that a copper-containing green pigment caused the damage observed in a manuscript than that this green paint is necessarily verdigris.<sup>14</sup>

The importance of identifying materials correctly for conservation purposes may be evident (lest an ineffective treatment were chosen), but for codicologists relying on these technical descriptions of paper, inks and binding structures, a precise description is just as crucial. Indeed, when conclusions are based on characteristics described with terminology that can be explained in different ways, they are not reliable. In order to promote clear, accurate and consistent communication, a glossary has been developed under the aegis of The Islamic Manuscript Association (TIMA), initially as a tool for conservators, but the project evolved as an instrument for effective communication with a wider applicability. Almost every descriptive term used in the present study is found in this Glossary.<sup>15</sup> An alphabetical list of

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<sup>12</sup> The term is included in the 'Glossary for the conservation and description of Islamic manuscripts' (see footnote 15 below), and has been used in several publications since 2011.

<sup>13</sup> An example of this other use of 'textblock' is found in A. Teh Gallop, 'An Acehese style of manuscript illumination' (2004), p. 197.

<sup>14</sup> P. Hepworth and N. Baydar, 'Islamic manuscript conservation and its vocabulary' <http://www.docstoc.com/docs/55820832/Islamic-Manuscript-Conservation-and-Its-Vocabulary-Paul-Hepworth> (accessed 22-05-2014)

<sup>15</sup> P. Hepworth and K. Scheper, *Glossary for the conservation and description of Islamic manuscripts*, an illustrated and multi-lingual glossary of which the English version, for an interim period, is available at <http://www.hepworthscheper.com/lexicon/lexicon-en.html>. (accessed 08-09-2014) When the glossary's translation in Arabic, Persian and Turkish is ready, it will be available on TIMA's website. This glossary is not static and remains a work in progress, to be added to when the addition of

the terms and their definition, frequently used in this thesis, is included in Appendix I, *Glossary*.

## 1.2 *Illustrations*

The illustrations in this Part serve to clarify and enhance the understanding of the technical descriptions. Because there are several ways to construct the predominant manuscript type, and the structural differences are precisely the characteristics we are looking for, multiple drawings of that type with slight but important dissimilarities are provided. The outward appearance falls into two categories: full and partial leather bindings. The full leather bindings, however, need to be divided in two groups as well, for clear technical differences. This results in a group of bindings covered with one piece of leather, and bindings covered with two pieces of leather which overlap on the spine. [figs. 13-16] The technical distinction, its rationale and the importance of these techniques to our understanding of the making of Islamic bindings are further discussed in paragraph 3, 'Covering and board attachment'.

Apart from the method used to apply the covering material, the construction of a manuscript is defined by sewing structure and spine-lining. This idea will be set forth in paragraph 2 below, 'Techniques used to construct the textblock'. Technically, a division can be made based on the function of the extending sides of the spine-lining. These flanges are often used to strengthen the board-attachment, in which case the extending parts of the lining are pasted on the inside of the boards (although there are a few exceptions, when the lining extensions are adhered onto the outside of the boards). [figs. 20, 21, 23] However, a substantial number of books have flanges that are pasted onto the outer leaves, in which case they do not support the board-attachment. [fig. 24] The choice of material – leather or cloth – appears to play a role in this phenomenon. The difference is elaborated on in paragraph 2.5; the technical and structural differences in board-attachment are explicated in paragraph 3, 'Covering and board attachment'. To introduce terminology, however, drawings of the different covering schemes and drawings of the diverse use of the spine-lining extensions are given below. [figs. 13, 14, 17-24]

## 2 **Techniques used to construct the textblock**

### 2.1 *Link-stitch sewing*

Typically the gatherings consist of four or five bifolios but of course, a range of variations is possible. We find gatherings with more or fewer bifolios, with additional tipped on single folios or guarded leaves. Regardless of their composition, they are sewn in such a way that a compact, flat and straight textblock with a minimum of swelling in the spine is the result. Unsupported sewing structures are predominant in the Islamic binding tradition, and a link-stitch sewing on two stations with a thin thread is by far the commonest sewing structure encountered. [figs. 25-27]

This link-stitch usually passes over approximately a third of the spine-fold in the middle of the gathering, although exceptions are regularly found. Some manuscripts have remarkably long or very short link-stitches and these anomalies are not necessarily related to an exceptional size of the book. Variation is also encountered in the choice of sewing thread. Whereas the predominant thread is thin and often a coloured silk, some binders favoured, or were compelled to use a thread of different quality, thickness or other material such as linen

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terminology is appropriate. Already during the process of publication, it appeared that a few terms were missing from the list. These are included in Appendix I of the present study and will be uploaded on the web as soon as possible.

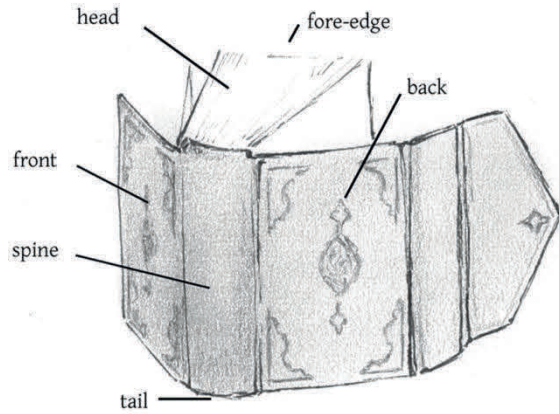


Fig. 13. A full leather binding made with one piece of leather, showing both covers and the fore-edge and envelope flap to illustrate the vocabulary regarding positions.

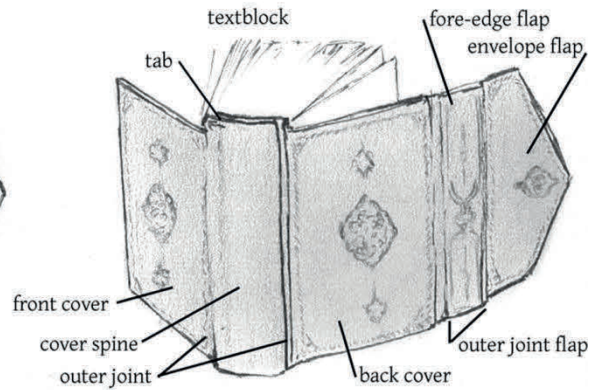


Fig. 14. A full leather binding made with two pieces of leather, illustrating the basic components. Evidence for the usage of the two-pieces technique is found on the spine, where the two pieces overlap; the seam runs parallel to the joint. The two layers may also be discernible in the tab.

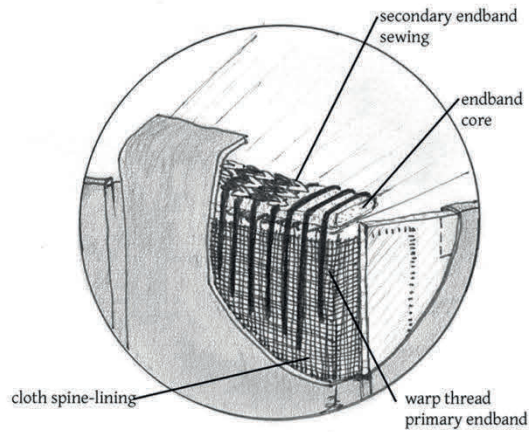


Fig. 15. Detail of the spine of a full leather binding made in one piece. Visible are the cloth spine-lining with flanges, the warp threads of the primary endband and part of the secondary endband.

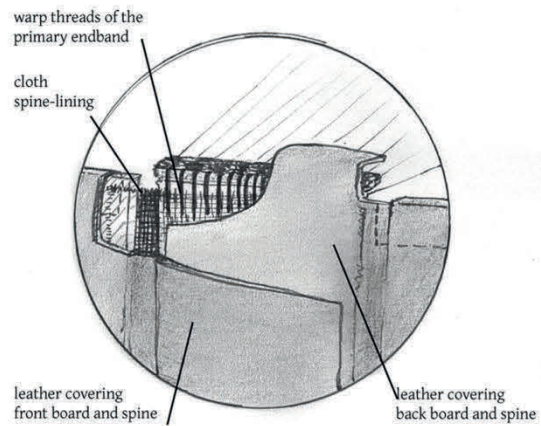


Fig. 16. Detail of the head of the spine of a full leather binding for which the two-pieces of leather technique is used.

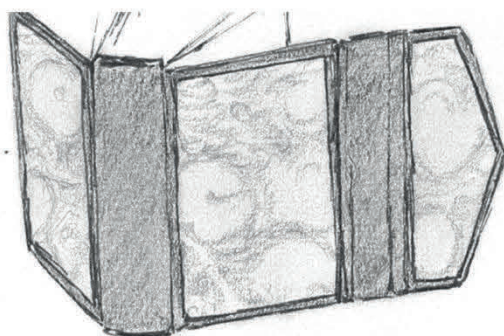


Fig. 17. A çaharkuşe, or partial leather binding. Spine and fore-edge flap are covered with leather and in this case all board edges are covered with separate strips of leather, thinly pared. The central panels are covered with paper.

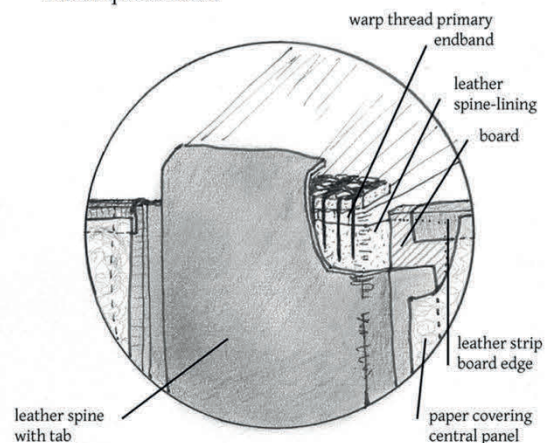


Fig. 18. Detail of the spine of a partial leather binding. It shows a leather spine-lining with flanges (used as board attachment), the warp threads and part of the secondary endband, plus the strips of leather on the board edges and decorative paper covering material.

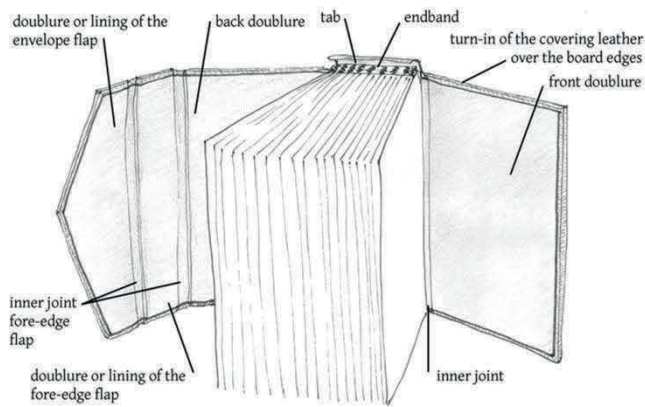


Fig. 19. Inside of a binding with a leather textblock spine-lining of which the extended sides are attached to the inside of the boards. The main technique used for this structure combines the lining flanges with a separate doublure. Less common is a leather spine-lining with extending sides that actually form the doublures. Details are given in fig. 20 and fig. 21.

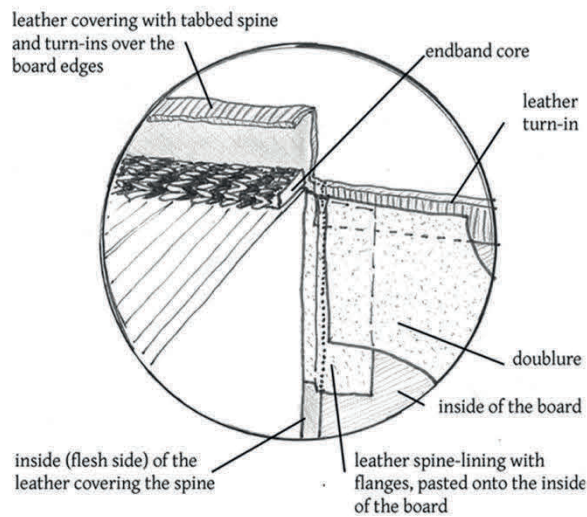


Fig. 20. Detail of the spine and inner joint of a manuscript with a leather spine-lining, which is used for board attachment and forms the inner joint. When the doublure consists of leather as well the seam between the two components may be very subtle and hard to distinguish.

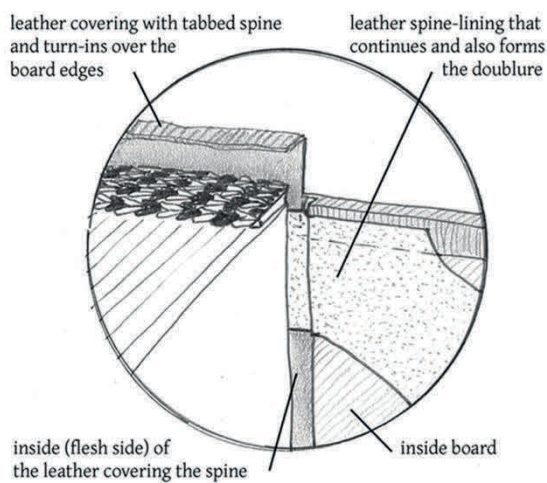


Fig. 21. Detail of the spine and inner joint of a manuscript with a leather spine-lining that is also used as doublure. It does not necessarily indicate that this lining-doublure consists of one piece of leather. Two pieces may have been used, overlapping or abutting on the textblock spine.

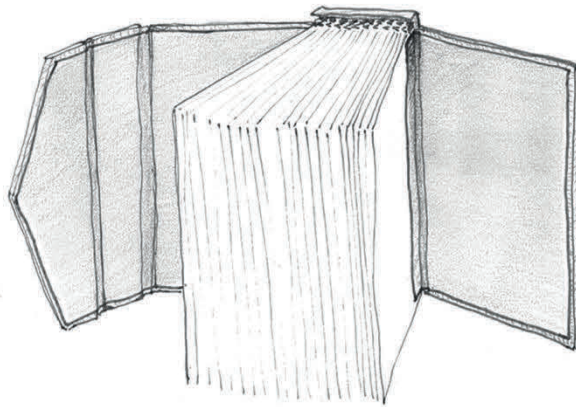


Fig. 22. Inside of a binding with a cloth textblock spine-lining. The inner joint is covered with either a stub from the doublure, a separate strip of leather or paper, or it may be covered by the outer leaf of the textblock or a tipped-on endpaper. It is not always easy to detect the board attachment structure of this type. The flanges were mostly adhered onto the inside of the boards but they may also have been pasted onto the outer textblock leaves. Details are given in figs. 23 and 24.

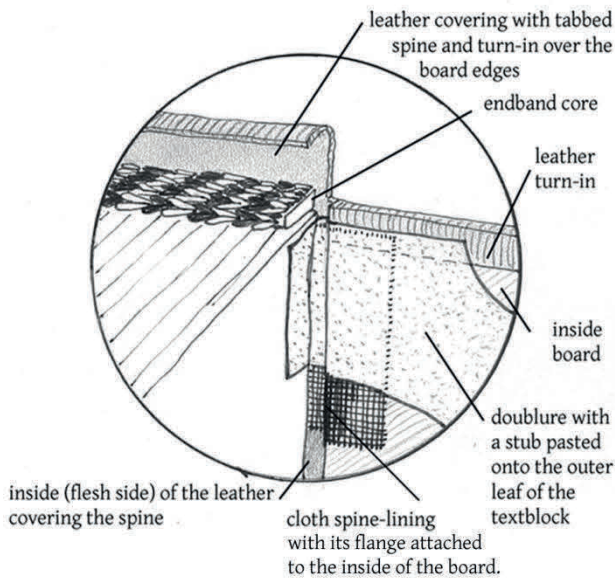


Fig. 23. Detail of the head of the spine and inner joint of a manuscript with a cloth textblock spine-lining, which is used for board attachment. These functional inner joints are covered with the stub from the doublure (or, in other cases, with a separate strip of paper or leather as the innerjoint, or a stubbed leaf tipped on as endleaf with the stub adhered in the joint).

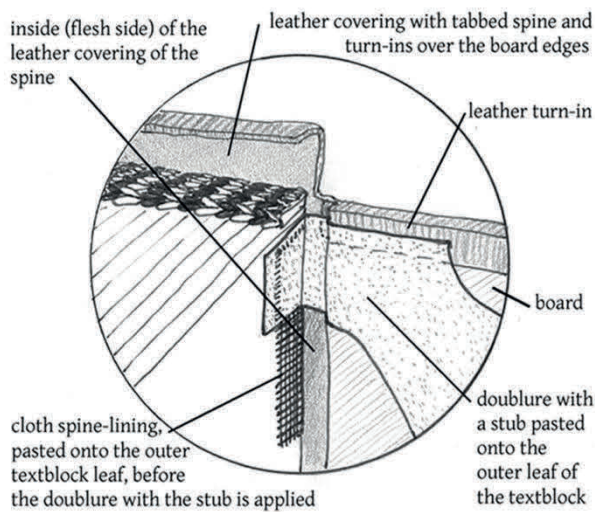


Fig. 24 Detail of the spine and inner joint of a manuscript with a cloth textblock spine-lining, which is not used for board attachment. Instead, the flanges are pasted onto the outer leaves of the textblock. The inner joint is covered with the stub from the doublure (or, in other cases, with a separate strip of paper or leather as the inner joint).

or cotton.<sup>16</sup> Undyed thread is very common as well. It has been suggested that the colour of sewing thread can be related to the subject matter of the text. According to David Jacobs and Barbara Rogers, green thread would be used for works on the life of the Prophet, and texts on Islamic law are supposedly sewn with red thread.<sup>17</sup> However, on what evidence this statement is based remains unclear. Neither data on the number of manuscripts studied nor on any diverging colours to this scheme were provided. Other secondary sources mention yellow or blue and pink thread as the most prevalent colours.<sup>18</sup> The survey results from the present study do not support Jacobs and Rogers' theory, nor the statements that other colours would be dominant. On the contrary, evidence was found to suggest a rather indiscriminate usage of colours, as many textblocks were sewn with two, or more, differently coloured threads. [figs. 28, 29]

Sporadic deviations from this preferred sewing structure are found in a variety of manuscripts, originating from across the Islamic world. Among these, the closest one related to the link-stitch sewn on two stations is a link-stitch sewn on more stations. A structure using four stations is the alternative most often encountered. Naturally, a sewing structure on four stations allows for more variation than the link-stitch on two stations. According to the survey results, the Islamic bookbinding tradition has its own typical version of this type of sewing, in which the thread does not pass on the inside of the gathering continuously, but exits through the second sewing station to pass on the spine-side of the gathering, where it makes a loop around the thread from the preceding sewing tour, thus forming an extra connection. The thread then returns to the inside of the gathering through the third sewing station. The exit in the fourth station and linkage to the thread underneath is similar to the ordinary link-stitch over two positions.<sup>19</sup> [figs. 30-32]

In other cases, three, five or more sewing stations are used. Technically, they form a different category of link-stitch sewing. [figs. 33-37] A link-stitch on three stations does not allow for the thread passing on the spine; the thread exits and enters again on the middle position, thus making a full chain-stitch. For larger manuscripts a link-stitch on five stations is sometimes used. Theoretically it is then possible that the thread alternates, and passes in the gathering-fold (between the first and second station and again between the third and fourth station) as well as on the spine (between the second and third and again between the fourth and fifth – and reversely in the next gathering), which would be comparable with the link-stitch sewing on four stations as described above. However, the only kind of structure encountered is with thread passing between all five stations on the inside of the fold,

<sup>16</sup> Apart from personal choice, availability and costs are of course important factors. In Part Five the usage of the materials is related to origin and timeframe, at which point the possible explanations for the differences will be considered.

<sup>17</sup> D. Jacobs and B. Rodgers, 'Developments in the conservation of Oriental (Islamic) manuscripts at the India Office Library, London' (1990), p. 117.

<sup>18</sup> See N. Baydar, 'Structural features and conservation problems of Turkish manuscripts and suggestions for solutions' (2002), p. 7; and S. Pugliese, 'Islamic bookbindings in the manuscript collection of the Marciana National Library in Venice' (2010), p. 53.

<sup>19</sup> This link-stitch on four stations deviates from the ones found in Coptic, Byzantine or Ethiopian codices. In those, either the thread passes from station to station within the spine-fold by which method also more chain-stitches are formed on the spine, or the gatherings are sewn in two columns with one or two needles. With the latter, Ethiopian method, the inside of the gatherings resembles the Islamic system (where the thread only passes between the first and second station, and again between the third and fourth station), albeit that the Ethiopian sewing scheme is discernible because of the double passing of the thread inside the gathering and also, when the spine of the textblock is accessible, one will find that no thread passes between the second and third station. See J.A. Szirmai, *The archaeology of medieval bookbinding* (1999), pp. 16-22, 33, 46-47 and 67-69. For comparative drawings, see K. Scheper, 'Preserving the Islamic manuscript as an artefact. Some object characteristics and treatment considerations' (2014), 98-100.

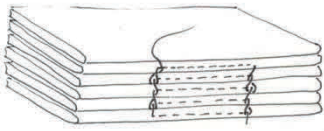


Fig. 25. A link-stitch on two stations. The thread exits one gathering in order to pass to the next, it is then taken behind the point of exit in the previous gathering, thus forming a chain of linkages.



Fig. 26. Or. 849 (1658). The opening shows the thread (in blue) of a link-stitch on two stations (the threads at head and tail are the primary endband warps).

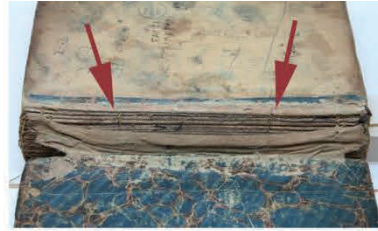


Fig. 27. Or. 17.143. A link-stitch on two stations seen on the spine, visible because the cloth spine-lining has become detached.



Fig. 28. Or. 8907 (1602). The manuscript is sewn with both green and red thread. This opening shows the knot with which the new length of thread is fastened.



Fig. 29. Or. 8907. Detail of the two sewing threads of different colour, knotted together.



Fig. 30. Or. 656 (1562). The opening shows the thread of a link-stitch on four stations.

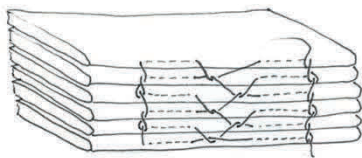


Fig. 31. Diagram of a link-stitch on four stations.



Fig. 32. Or. 340. The spine of the textblock demonstrates the passing of the thread between the second and third sewing station.

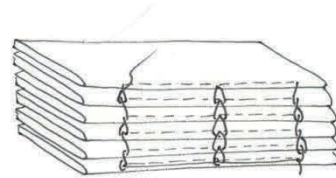


Fig. 33. Drawing of a link-stitch sewing on three stations.

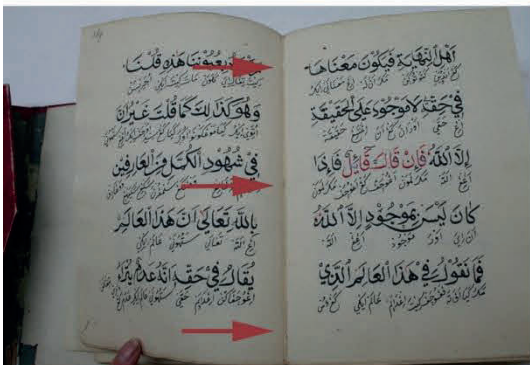


Fig. 34. Or. 1840 (1766, Java (?)). The opening shows the thread of a link-stitch on three stations. The stations are indicated by the arrows.



Fig. 35. Or. 6987. A link-stitch on five stations. On the outer stations no chain stitches are formed, the thread exits and passes on to the next gathering directly (red arrows). With ink the position of the stations were marked (black arrows), though the binder chose to position his sewing differently.

comparable with the link-stitch sewing on three stations, forming the full chain-stitches on the spine. [figs. 35, 36]

Technically, the variant link-stitch on three stations is more stable than a link-stitch on two and even more so than the one on four stations executed in the Islamic manner. The middle linkage forms a direct and small chain with the thread underneath, whereas in the 'four-station sewing' the thread forms a long loop when it crosses the spine on the outer spine-folds, which is rather slack. It is therefore remarkable that in this already superior sewing structure, often an additional effort was made to stabilise the sewing. In many of the specimens the thread is pulled behind the preceding stitch in the gathering spine-fold, creating a loop through which the thread then passed, thus forming a knot. This is the most complicated way of performing a link-stitch sewing. [figs. 38, 39] On the other hand, some of the link-stitch sewing structures on multiple stations lack a chain-stitch on the outer stations. They have a direct change-over, meaning that the sewing thread is not linked to form a chain with both the preceding and the successive gathering. As these outer sewing stations are very close to the endband sewing stations, the loss of connective strength is compensated by the endband sewing. [figs. 35, 36] Although not exclusively, many of the manuscripts made with the type of link-stitch sewing using three, five or more stations originate from Southeast Asia.

## 2.2 *Stabbed sewing*

Another unsupported sewing structure, though completely diverging from the link-stitch sewing structures, are stabbed sewing methods. With stabbed structures, the thread (or cord, or leather lace) passes through transversal holes in the textblock, quite close to the spine. [figs. 40-44] These sewing methods occur irregularly and throughout the Islamic world. They sometimes appear to be repair sewing structures. [fig. 41] They may also be the original sewing structure, although they need not be contemporary with the manuscript.

Stabbed sewings have an advantage over link-stitch sewing structures in that they can be applied to loose folios; link-stitches can only be made when the gatherings have proper spine-folds. Consequently, stabbed sewing structures are often found in manuscripts containing many loose leaves. Among these are texts with a large number of inserted leaves, such as notes, pieces of scrap paper or other additions on different paper. It has also been used as a repair sewing for damaged manuscripts with torn gathering folds or worm-eaten spines, or, for instance, on composite manuscripts assembled and sewn in a second binding campaign. In the latter case the holes from the original link-stitch sewing may still be visible in the spine-fold. [fig. 43] Furthermore the technique is found on manuscripts originating from North and sub-Saharan Africa where there is a particular tradition to write manuscripts on loose leaves or on bifolios forming gatherings that initially remained unsewn.<sup>20</sup> However, unbound manuscripts are prone to disorder and damage, so it is not unusual for these texts to have been bound at a later stage. Although a stabbed sewing is a quick measure to hold a stack of loose sheets together, the drawback is that a stabbed manuscript does not open as well as a link-stitch sewn book. Passing through the paper some millimetres (up to a centimetre) away from the spine, the thread (or leather lace) connects the pages tightly. As a consequence, text written close to the gutter becomes difficult to access.

The simplest form of stabbed sewing is a side-sewing technique using two stabbed holes. The sewing gets more elaborate when more sewing stations are used, or when the side-sewing technique is combined with overcasting, in which case the thread repeatedly passes over the textblock spine and forms a spine-loop. Some of the very thick stabbed manuscripts

<sup>20</sup> See for example: A. Brockett, 'Aspects of the physical transmission of the Qur'an in 19<sup>th</sup>-century Sudan: script, decoration, binding and paper' (1987), p. 47 and p. 53 (note 46); K. Johnson, 'An amuletic manuscript: 'Baraka' and 'Nyama' in a Sub-Saharan African prayer manual' (2010), pp. 161-162; *Encyclopaedia of Islam Three*, 'Bookbinding', [http://referenceworks.brillonline.com/entries/encyclopaedia-of-islam-3/bookbinding-COM\\_22883?fromBrillOnline=true](http://referenceworks.brillonline.com/entries/encyclopaedia-of-islam-3/bookbinding-COM_22883?fromBrillOnline=true) (accessed 12-01-2013).

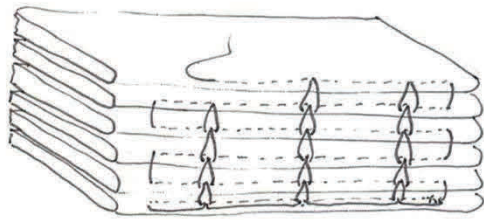


Fig. 36. Drawing of a link-stitch sewing on five stations. In this example, the outer stitches do not form a linkage with the sewn gathering underneath.



Fig. 37. Or. 8205. The thread inside the gathering passes almost from head to tail. Six stations were used for this link-stitch sewing; the warp threads of the primary endband form the seventh and eighth sewing station.



Fig. 38. Or. 8205. Detail of the thread inside the gathering. On returning from the chain on the spine, the thread passes around itself and forms a knot. Thus, the paper is protected from tearing when the thread is tightened.



Fig. 39. Drawing of the knotted stab stitch. The knot is formed after the thread linked on the spine and was taken back in the gathering.

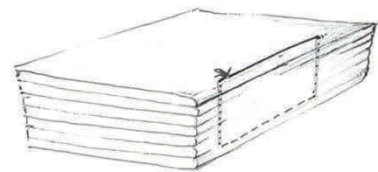


Fig. 40. Drawing of a basic stabbing technique, using only two stations.



Fig. 41. Or. 25.428. A manuscript with a stabbed sewing, which was once sewn on two stations; the red arrows point at the former stations of that link-stitch sewing.



Fig. 42. Or. 25.693 (1811). A manuscript with a stabbed sewing, parallel to the spine and using three stabbed holes.



Fig. 43. Or. 2749 (1766). A manuscript now sewn with a stabbed sewing (red arrows), perpendicular to the spine. The small holes in the centre (black arrows) bear witness of a former link-stitch on two stations.



Fig. 44. Or. 2378 (1724). The manuscript does not open well because the stabbed sewing prohibits the leaves from flexing in the spine-fold. The arrows point at the sewing stations.

were bound in two stages. First manageable sections were stabbed and sewn with relatively thin thread. Then these sections were connected by stabbing them once more with a wider punch and thicker thread.

### 2.3 *Sewing on supports*

Another diverging structure, although certainly not regularly encountered, are manuscripts sewn on supports.<sup>21</sup> The use of sewing supports is highly unusual in manuscripts from the heartland of Islam and Central Asia. In Southeast Asian manuscripts, however, sewing supports appear to have been used rather frequently. At least two techniques were used, sewn around and sewn across. [figs. 45-49] The first is a more elaborate technique, in which the thread forms a loop around the support and passes the support on the inside of the gathering twice. It thus causes some extra swelling in the spine but prevents the paper from tearing while it is sewn. The second method is quicker, the sewing thread moves from head to tail or vice versa in one direction only. It passes the supports on the spine side and causes no swelling, but fragile paper might tear more easily during the sewing process. In both techniques all gatherings are sewn all along, meaning that the thread runs the full length of the spine-fold except for the outer ends beyond the chain stitches. Two-on sewing or bypassing, ways to economise because supports are skipped or two gatherings are sewn in one sewing tour, was encountered in the survey only once.<sup>22</sup>

In the UBL collections the use of supports of parchment and tanned leather were recorded. The support slips (the outer ends of the support material extending transverse from the spine) were invariably adhered onto the boards in order to strengthen their attachment. [fig. 49] Data details of the methods used will be given in Part Five, where the question of when or why this method of sewing developed, or was introduced in a specific region, is also explored.

### 2.4 *The primary endband sewing*

Contrary to Western practice, in which, over the centuries, the function of the endband altered from a constructive binding element into a mere decorative feature, the Islamic endband in the predominant manuscript structure has always been very much part of the sewing structure. The typical Islamic endband consists of a primary endband, sewn over a leather core, and a secondary endband sewing. [figs. 50-52] As the link-stitch sewing leaves the textblock relatively unstable, the function of the primary endband sewing is crucial for the structure's stability. But even before the primary endband is sewn, the textblock spine is lined with a piece of leather or cloth. This spine-lining is then included in the sewing structure: the anchoring threads of the primary endband pass over an endband core and through every gathering, as well as through the spine-lining. Thus they provide an additional connection and strength to the outer ends of the textblock spine where such strength is most needed. The application and function of the spine-lining is further discussed in paragraph 2.5 below.

The method of manufacturing the endband has been remarkably consistent and this characteristic component should therefore be considered an integral part of the sewing structure; even when deviating sewing structures were applied we still find a primary

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<sup>21</sup> Obviously, this category only describes original bindings made by local craftsmen, contemporary with the manuscript; Western repair sewings were encountered but excluded.

<sup>22</sup> With two-on sewing two – or more – gatherings are sewn while the thread passes once from head to tail or vice versa, using at least three stations. Bypassing is a technique that saves time because the gatherings are sewn without using all sewing supports; with each sewing tour an alternating support is skipped. Unavoidably, these techniques resulted in less stable structures than the traditionally sewn textblocks. Nevertheless, in Western sewing structures from 1550 onwards such time-saving sewing methods became increasingly common, as a response to the growing output of the printing presses. See N. Pickwoad, 'Onward and downward' (1994), pp. 75-78.

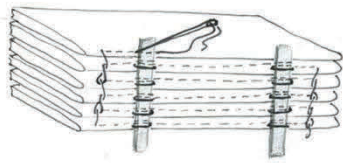


Fig. 45. Drawing of a supported sewing, with the thread sewn around the supports, using two strips of leather or parchment.

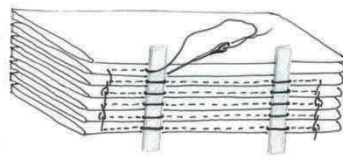


Fig. 46. Drawing of a supported sewing, with the thread sewn across the supports, using two strips of leather or parchment.



Fig. 47. Or. 6997 (1851). The textblock was sewn on three tanned leather supports, which have deteriorated rather badly.



Fig. 48. Or. 2286 (1859). Gathering fold exposing the sewing thread. The gathering is sewn all along, the thread passes on the outside of the supports, so called sewn across.

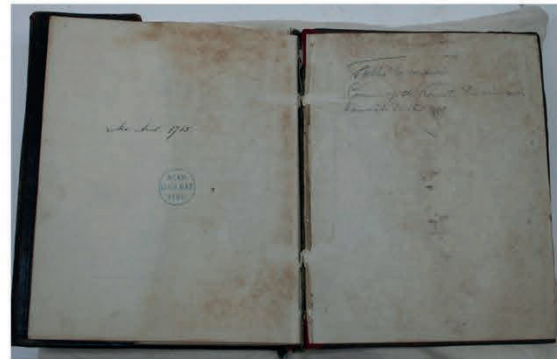


Fig. 49. Or. 2286 (1859). Inside front cover. In the joint the two supports are visible. The support slips are used for board attachment, they are pasted onto the inside of the board and covered with a doublure or paste-down.

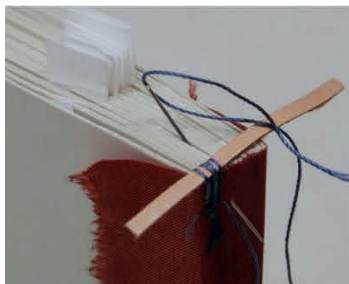


Fig. 50. Sewing of the endband on a mock-up: the tiedowns pass over a leather core, and through each gathering.



Fig. 51. Or. 17.143. The leather spine is missing, thus the cloth lining and the endband's tiedowns at head and tail are clearly visible.



Fig. 52. Or. 1196. The predominant secondary endband, the chevron type.



Fig. 53. Or. 1842 (ca. 1770, Banten, Northwest Java). A rather complicated endband weaving (its sewing scheme as yet unresolved although it does appear to consist of a primary and a secondary sewing).



Fig. 54. Or. 1677. A diverging primary endband technique in which the tiedowns are bundled up, either after finishing the whole primary endband sewing, or while the endband is being sewn. There is no secondary sewing.

endband that connects all gatherings to the spine-lining (with the exception of a few stabbed repair sewings with extensive paper damage). A secondary endband with a more decorative function was applied in most cases; the exceptions to this rule were scarce. [figs. 53-55] The thread for the primary sewing is often the same as the one used for the textblock sewing, but a thread of diverging colour or thickness is also frequently found. Usually the thread is fastened with a knot in one of the outer gatherings but different systems with a fastening on the spine side are used as well.

The core was often made of a small strip of leather but may also consist of twisted threads or textile strips or, less commonly, stiff material like bamboo or reed. In the reference book on endbands, *Les tranchefiles brodées* (1989), parchment is suggested as an alternative material for endband cores in Islamic bindings, but only two examples were found in the present study.<sup>23</sup> [fig. 56] In the final result the core is as long as the textblock is wide, but to manufacture an endband a longer core material was taken initially. The endband was sewn on it and only after finishing the secondary sewing were the extending ends of the core cut away. Evidence of this working method is found on a few manuscripts in which one of the endband-cores, apparently forgotten, protrudes over the joints. [figs. 57, 58] However, in some parts of the Islamic world it seems that the extensions of the endband cores were kept intentionally; the strips of leather were pasted onto the outer textblock leaves, or secured on the textblock close to the spine with a thread passing through the leather and a stabbed hole in the textblock.<sup>24</sup> [fig. 59] On many Indonesian endbands the cores are not trimmed either. And, to make them even more distinctive, these cores are often not made of leather but of colourful cloth or threads, forming tufts at the joints (see paragraph 5.7, figs. 112-114).<sup>25</sup> Lastly, a small group of similar endbands could be identified that diverge from the predominant endband structure because no endband cores were used at all, although the outward appearance of these endbands is very traditional. With this system, the binder used either a horizontal cut in the textblock edge in which a thread was laid – perpendicular to the spine – to secure the position of the tiedowns, or a thick and rigid spine-lining was applied through which the tiedowns were sewn. Both methods seem to be designed to support and sustain the endband in position. However, neither of them appear to be easier, quicker or otherwise advantageous to the traditional use of the leather endband core. [fig. 60]

## 2.5 The dual function of the spine-lining

The authors of all historical sources except Ibn Abi Hamidah described the application of a spine-lining after sewing the gatherings.<sup>26</sup> Indeed, textblock spines appear as a rule to be lined.<sup>27</sup> The lining material is adhered with a vegetable adhesive and covers the spine from head to tail.<sup>28</sup> Generally leather or textile was used, sometimes paper is found as an additional layer. These spine-linings are crucial in the structure of the manuscript. They have a dual

<sup>23</sup> *Les tranchefiles brodées*, (1989), pp. 73, 86.

<sup>24</sup> Data about these manuscripts is provided in Part Five, paragraph 3.3 and 3.4.

<sup>25</sup> More precise data is provided in Part Four and Five.

<sup>26</sup> The available translation of Ibn Abi Hamidah by Adam Gacek (1992) is abbreviated, and as I have not been able to access the text from another source, I cannot yet be conclusive about his practices.

<sup>27</sup> Results from the survey attest this practice; with only a few exceptions, all spines are lined. See Part Four, paragraph 2.3.

<sup>28</sup> Different kinds of adhesive were used, such as starch made from wheat, rice, or the dried and ground root of the asphodel plant. Gums were used as a binder for pigments, though they could be applied as adhesive in bookbinding as well. In the historic sources the usage and particular application of adhesives were not specified in detail, but there is fragmentary information. For example, Ibn Badis describes the use of asphodel paste to adhere the paper linings to the textblock spine. See G. Bosch et al., *Islamic bindings and bookmaking* (1981), p. 49. That the use of adhesives could vary over the region is attested by Pedersen when he cites a tenth-century traveller-bookbinder who mentioned the use of asphodel paste to make pasteboards or apply the doublures in Palestine whereas he used wheat starch for the same procedures in Yemen. J. Pedersen, *The Arabic book* (1984), p. 103.



Fig. 55. Or. 1677. The endband as seen from the spine; it appears to consist of a primary sewing only, the horizontal threads only bundle the tiedowns.



Fig. 56. Or. 546 (1224, though resewn). The endband core consists of a tightly rolled up material, possibly parchment.



Fig. 57. Or. 504 (1520, Gallipoli). Detail of an endband at the tail side, which shows a slip of the endband core that was not cut after sewing.



Fig. 58. Or. 11.723. The extending sides of the endband core were not trimmed, they were folded backwards on the spine. Had the cover not become detached, they would not have been visible.



Fig. 59. Or. 6348 (1664). Detail of an endband at the head side. The slip of the leather endband core was intentionally not cut, since part of the endband sewing pierces the leather.



Fig. 60. Or. 2611 (1767). Endband sewn without an endband core; across an incision in the textblock lays a thread that functions as a grip for the tiedowns. Its outer ends are pulled through stabbed holes in the lining and textblock (arrow).



Fig. 61. Or. 755 (1612). Damage in the joint of the marbled paper doublure with stub reveals the cloth flange underneath. As the inner joint is completely torn, it may not be immediately clear that this cloth is the extension of the spine-lining. The arrow points at the cloth. The cloth pattern, visible on the left side of the joint, is only an imprint of the cloth in the paste-layer on the torn paper.



Fig. 62. Or. 2686 (1844). The extension of the cloth lining was adhered onto the outer leaves of the textblock; it did not function in the board attachment structure. Now that the adhesive with which the leather was pasted onto the textblock spine has lost its strength, the paper joint has split. The remaining stub covers the cloth pasted onto the textblock's outer leaf.

function, not only stabilising the textblock but also supporting the primary endband sewing and preventing the paper gatherings from tearing at the sewing stations of the endband tiedowns, as the lining material covers the spine full length. Moreover, the lining usually extends past the width of the textblock spine several centimetres on both sides. These extensions are generally used to strengthen the board attachment, by adhering the flanges onto the inner side of the boards. Although the application and function of both cloth and leather spine-linings are essentially the same, the subsequent treatment of the flanges and finishing of the inner joints differs for both materials.

According to the survey data (see Part Four, paragraph 2.3), in the majority of cases where a textile was used, the lining extends over the sides of the textblock spine and these flanges were used to strengthen the attachment to the boards. These cloth joints were then covered by means of the stub from the doublure hinge or an additional inner joint of paper or leather (see also the drawing fig. 23). Alternatively, an additional bifolio could be pasted along the gutter of the outer gatherings of which the outer leaf was applied as a paste-down. As a result, these cloth flanges are not directly visible, unless the joint is damaged. [fig. 61] Only rarely is visual proof found that the textile flanges were pasted onto the outside of the board. That way, the cloth supports the board attachment but does not cover the inner joint (see fig. 72 in 3.2 below).

Another method, though far less frequently encountered in this study, was to paste the textile flanges onto the outer folia, after which the fabric was covered with the doublure stub or an additional strip of paper, or sometimes leather. In these cases the extending flanges are always cut relatively short. [fig. 62, see also the drawing fig. 24] Obviously, in these instances the flanges do not function as a board attachment reinforcement, which raises the question why then this manner of working was employed. Perhaps the frequent delamination of the textile lining from the textblock spine over time prompted binders to rethink their practice. This delamination process could be speeded up by frequent use: the spine would have to curve in a hollow and the flexing of the joint would put stress on the attachment of the lining to the textblock. By adhering the flanges onto the outer leaves of the textblock – instead of on the inner boards – at least this tension would not occur. Nevertheless, this possible reasoning does not explain why this particular method only seems to be used for cloth spine-linings and not leather ones. Leather linings always appear to be used for board attachment, no examples were found of leather lining extensions pasted onto the textblock.

Nearly all cloth linings are of a tabby weave. Whilst either the warp and weave threads usually follow the direction of the spine, there are a few rare examples of the cloth being cut on the bias – a technique that guarantees additional tensile strength in the joint. [fig. 63] Many textiles used for spine-linings are undyed, plain fabrics. As the material is used for strength and functionality, but, as stated above, not meant to show after the binding was finished, this cheapest choice of cloth is understandable. It is therefore interesting then that coloured fabrics, often reddish or blue, are quite regularly encountered, as well as blue chequered or striped patterns. Now and then a block-stamped design was also found.

When leather was used for lining the textblock, it always extends past the width of the spine and the flanges serve as a structural component like most textile flanges. But, unlike the textile spine-lining, these inner joints were not covered. They were kept visible, apparently appreciated as a decorative binding element (see also the drawing fig. 20). When the doublures are made of paper, these leather inner joints contrast nicely. [fig. 64] However, when leather was also used for the doublures generally a similar piece of leather (in structure and colour) was chosen. From this custom, and the high standards of craftsmanship, it follows that the overlap between the leather spine joints and the doublure is very subtle, and the seam is often hard to detect. This creates the visual effect of a ‘continuous doublure’ (one piece of leather used as the lining and the doublures). [fig. 65] Such ‘continuous’ doublures, which are in fact the flanges of the lining extending all the way to the front-edge of both boards (and indeed, often the envelope-flap as well), do also occur. Technically they can be



Fig. 63. Or. 398 (1571). The textile spine-lining is cut and used on the bias. The damage to the leather joints gives visual access to the spine-lining; the arrow points at the threads of this cloth.



Fig. 64. Or. 930. The extending side of the leather spine-lining is pasted onto the inside of the board. A part of it is visible as the inner joint, the part underneath the doublure caused discolouration of the paper because of the acidity of the leather.

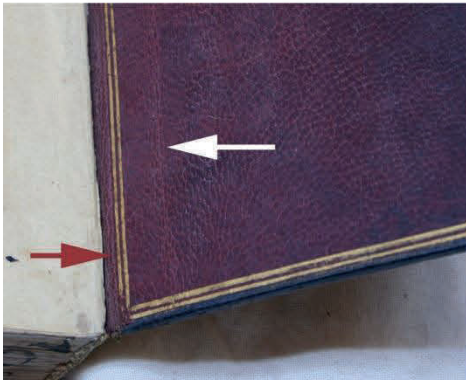


Fig. 65. Or. 1065. Detail of the front doublure. The overlap between the leather joint (the flange of the spine-lining) and the doublure is obscured by the gold lines; the edge of the doublure is just visible on their left side. A slight swelling of the doublure to their right betrays the edge of the leather flange underneath.



Fig. 66. Or. 731 (1588, Egypt). Leather spine-lining in two pieces, both covering the textblock spine. The parts extend over the joint up to the fore-edge, thus forming the doublure. Note the primary endband warps passing through both layers, now causing damage to the delaminating spine-lining.



Fig. 67. Or. 14.204b (1859), Or. 14.201 (1853), Or. 14.209 (1856, Cairo). Unsewn manuscripts in wrapper bindings. The upper left manuscript retained its connective leather strips. Discolouration on the other spines bear witness of similar connective strips, now lost.



Fig. 68. Or. 14.427 (nineteenth century). An unsewn manuscript in a wrapper binding. The connective strips consisted of black cloth. The interior of the binding demonstrates the degree of finishing: the leather at head and tail is turned-in and the interior is fully covered.

made of one or two pieces of leather, in the latter case the pieces overlap on the spine. [fig. 66] Which method was preferred is hard to determine because the evidence is only visible when the textblock spine is accessible because of damage.

In a few instances, the spine-lining material is cut along the shoulders of the textblock, in which case there are no flanges. It remains speculative at this stage whether this feature should be attributed to a certain tradition or if it is to be related to a rebinding method for manuscripts in which the original sewing and lining are kept but not the original flanges, which were perhaps torn or still stuck to the covers of the first binding.

## 2.6 *Unsewn manuscripts with wrapper bindings*

Lastly, a connective method that is not a sewing structure needs to be mentioned. It concerns a group of manuscripts consisting of proper gatherings which are not, and never were, sewn. They do, however, have bindings that show many similarities with those of sewn Islamic manuscripts. The treatment of the textblock as well as the accompanying wrapper binding suggest a method of assemblage that was chosen with a purpose. The fold lines in the gatherings have no holes to indicate a former sewing structure and there are no endbands. The position of the gatherings is secured only by two strips of leather or cloth that are pasted onto the textblock spine; these strips extend the width of the textblock spine with approximately a centimetre, at front and back, and these extending sides are pasted onto the outer textblock pages. The edges of the textblocks indicate some treatment: they are smooth and all gatherings are cut to the same size. The manuscripts are further protected by a wrapper cover, that fits perfectly but is not connected to the textblock with adhesive or by any other means. When the connective strips are preserved and intact, they reveal that they were not used as sewing supports and were not connected to the wrapper bindings. In fact, the wrappers themselves are completely finished, their interior shows no indication of being a half-product, the inside of the leather spines is covered with either textile or paper and sometimes even a board (the width of the spine) has been applied. From the exterior, these manuscripts look just like their sewn counterparts, but they clearly form a distinctive group. [figs. 67, 68]

In the historic literature the custom of leaving the gatherings unsewn, keeping them together with a protective wrapper binding that has all the features of an Islamic-style binding, is not mentioned.<sup>29</sup> However, quite a few such manuscripts have been preserved and examples are present not only in the UBL but also in libraries in Italy<sup>30</sup>, Turkey, Egypt and Algeria<sup>31</sup>, and Michigan.<sup>32</sup> It remains uncertain at present why and where these manuscripts were produced.<sup>33</sup> Economic reasons may have been involved since refraining from sewing and endbanding would have saved substantial time and cost, yet the manuscripts could still be traded, transported or stored in this fashion. Intensive use would have been impractical but the custom could be connected to copying practices; loose, exchangeable gatherings promote the efficiency of a copying workshop. Another hypothesis is that the unsewn but neatly supported and wrapped gatherings were stored like this in a bookseller's shop, awaiting a customer. What is clear, however, is that the physical form of this kind of manuscript is not coincidental; it is part of the general tradition although it cannot yet be fully explained. In

<sup>29</sup> Nor was this type of manuscript mentioned, as far as I know, in the secondary literature until I described it in 'The conservation of the Middle Eastern manuscript collection in the Leiden University Library' (2008), p. 68.

<sup>30</sup> Personal communication with Sara Fani, National Central Library Florence, at a COMSt workshop (December 20, 2010).

<sup>31</sup> N. Baydar, 'Newly identified techniques in the production of Islamic manuscripts' (2010), p. 70.

<sup>32</sup> E. Kropf, 'Historical repair, recycling, and recovering phenomena in the Islamic bindings of the University of Michigan Library' (2013), pp. 26-28.

<sup>33</sup> The 28 manuscripts identified in the UBL are relatively young, mostly nineteenth-century manuscripts.



Fig. 69. Or. 1065. The leather covering of the back board and flaps was adhered first, and the part adhered onto the spine is overlapped by the leather extending from the front cover. The seam lies close to the back joint.



Fig. 70. Or. 1392. A small manuscript (9.3x7.7x2.8 cm.) which is covered with the two-pieces technique; the seam of the two pieces of leather is visible above and below the right edge of the paper label.



Fig. 71. Or. 20.400 (1749). The leather turn-ins at head and tail cover the paper stub, which was pasted over the cloth flange over the inner joint prior to the turning-in of the leather of the spine.



Fig. 72. Or. 11.550 (1851). The cloth lining is used for board attachment by pasting the flanges on the outside of the boards.



Fig. 73. Or. 47 (1559). Part of the tab is torn and now missing but the remaining half is neatly folded over the endband.



Fig. 74. Or. 10.783 (1869). The tab was moulded over the endband and slightly indented with a tool along the endband's edge. When the incision was made that allows the making of the turn-ins over the board edges, the leather was cut a little too deep.

order to learn more about this particular group, and to explore the hypothesis of copying schemes as well as that of booksellers practices, it will be necessary to study these manuscripts in more detail, and to locate as many examples as possible. It is therefore important that conservators and collection managers be aware of this type of binding, so that they decide to box rather than bind these manuscripts.<sup>34</sup>

### 3 Covering and board attachment

#### 3.1 *Full leather bindings and the use of the two-pieces technique*

The numerous bindings that are completely covered in leather give the impression that they form a single category, but when we look carefully at the way they are made, a remarkable difference in construction comes to light. Many full leather bindings show an overlap on the spine; these bindings were covered with two pieces of leather instead of one. The leather edges, overlapping on the spine, were finely pared and the seam is hardly recognisable, so it was not meant to catch the eye. Usually both parts cover the spine width, and the edge of the top layer lays close to one of the joints. [figs. 69, 70] Why did some binders use two pieces of leather to cover the front and back board separately, while others used one piece?

There must be practical and technical reasons for this practice. Format could be an issue. If the technique was intended for outsized books too large for one piece of leather, the two-pieces should mainly be found on large volumes. However, quite a few original bindings in the UBL contradict this hypothesis. The majority of the bindings made with this technique are of modest size, the average is around a height of 25 and width of 18 centimetres.<sup>35</sup> Furthermore, it certainly seems unlikely that there would not have been large enough pieces of leather available to cover such small manuscripts as, for instance, Or. 1392 and Or. 1212.<sup>36</sup> [fig. 70]

It can also be argued that the technique is an economic way of using up smaller pieces of leather. In that case one would expect to find examples using different kinds of leather, with a dissimilar structure caused by differences in the hair follicle patterns of the skins, or slightly different colours. This hypothesis also does not hold. None of the bindings with the two-pieces technique which were examined in this study show differences in the two pieces of leather used on one manuscript. The use of leather from one and the same hide for every single artefact is remarkably consistent. This implies that the processing of pieces of leather was not required for economic reasons. Indeed, the binder already had other uses for such smaller parts of leather; he could use them to cover the spines and edges of *çaharkuşe* bindings as well as for spine-linings and the inner lining of the fore-edge flap. Additionally, they could be usefully applied for the repair of bindings.

The sheer rate of recurrence of this method is so large that it points rather to a working routine that was part of the Islamic bookbinding tradition.<sup>37</sup> Therefore we must look for other reasons to explain the frequent use of the two-pieces technique.

The technique is remarkably undiscussed in specialist literature, so suggestions for the rationale behind the technique were not found except for an article by Kristin Rose, who

<sup>34</sup> The fear of losing unsewn textblocks with wrapper bindings to well-meaning collection managers and binders is certainly not hypothetical. In Baydar's article (2010) an example of such a 'correction practice' is actually described; p. 70.

<sup>35</sup> The largest exemplars are not bigger than 36x28 or 38x25,7 centimetres.

<sup>36</sup> Or. 1392 measures 9.3x7.7x2.8 centimetres, Or. 1212 12.7x9.3x2 centimetres.

<sup>37</sup> Although 11% of the full leather bindings are so heavily damaged that the application method is not detectable, 40% of the remaining full leather bindings are made of two pieces of leather with an overlap on the spine. It should also be born in mind that of the full leather bindings categorised as being in one piece, some specimens may actually consist of two pieces of leather, applied so expertly and preserved in such good condition that the technique was not recognised despite the meticulous examination.

to my knowledge was the first to remark on this method of leather application.<sup>38</sup> Rose suggests it may be specific to Turkish manuscripts. Yet it is a rather common technique found in many Islamic manuscripts and not only confined to Turkish bindings, as the survey results attest. It is probably often due to the neatly pared leather that the technique is rather difficult to detect visually, causing this method of leather application to be overlooked by many conservators and other researchers.<sup>39</sup> Frequently the fact that the full leather binding is actually made of two pieces of leather is revealed only when the binding is damaged or the leather starts to deteriorate. This is presumably why relevant Western literature prior to Rose's article is lacking.<sup>40</sup> Two of the historic sources do, however, refer to the technique.<sup>41</sup>

In order to understand the application method of the two-pieces technique, we have to consider the practical advantages. When a binding is prepared separately from the textblock it might be easier to tool or otherwise decorate the leather. The cover cores are not solid boards but laminated paper sheets. Placed on the somewhat springy textblock, these materials may not offer the firm support required for tooling and stamping. The delicate and highly elaborate tools that were used for this kind of leather decoration would have necessitated quite some pressure, as can be detected from the frequent imprint in the boards or cuts in the leather along the edges of stamped patterns. To apply pressure on these tools firmly and evenly, which became possible when the separate loose covers were worked on a hard surface, would have improved results.

At the same time, when the integral cover would be prepared separately (as in a case-binding), there is an important drawback. Great precision would then be needed to ensure that the separately prepared cover fits the manuscript. If the spine-leather is taken a bit too wide or too narrow it is going to either leave the boards extending beyond the fore-edge or falling short by several millimetres in which case the fit of the envelope flap may cause problems as well. Also, the leather's ability to expand when wetted and shrink when dried has to be anticipated. Equally important are the exact angles at which the boards have to be adhered to the leather. If the angles deviated only slightly the boards would not line up with the edges of the manuscript. So, although making a case-binding is feasible, there are risks in

<sup>38</sup> K. Rose, 'Conservation of the Turkish collection at the Chester Beatty Library: a new study of Turkish book construction' (2010), pp. 47-48. However, the existence of the technique was common knowledge to contemporary binders in Turkey, as is attested by a posting on the BookArtsWeb, 1998. <http://cool.conservation-us.org/byform/mailling-lists/bookarts/1998/04/msg00364.html> (accessed 07-02-2013).

<sup>39</sup> For example, Max Weisweiler, who meticulously studied many bindings, failed to see the two pieces of leather on several of the Leiden manuscripts, Or. 190, Or. 270, Or. 539 and Or. 590. He described them as "aus einem Stück gearbeitet" (fashioned from a single piece of leather), while he always remarked on other specifics such as the possible repair or renewal of the leather spine or edges, or a replacement flap. M. Weisweiler, *Der islamischen Bucheinband des Mittelalters* (1962), pp. 178-179, 185-186.

<sup>40</sup> In a very different context however, the technique is mentioned by the seventeenth-century traveller Jean Chardin, *Voyages en Perse, et autres lieux de l'Orient* (1711), vol. 4, p. 259. The chapter provides an overview of many different professions, among that of the binder. Although the description is very brief, it reveals a condescending view of the Oriental tradition: "Les relieurs travaillent fort mal aussi; & ce qu'on aura peine à croire, c'est qu'ils ne sauroient faire la couverture tout d'une piece. Ils la font de deux pieces qu'ils collent sur le dos, lequel est toujours plât, ne le sachant pas faire rond. Et quoi qu'ils collent ces pièces fort proprement, la collure ne laisse pas de paroître avec le tems". I will elaborate on this text in the literature analysis discussing Yves Porter, Part Three, 5.3, as he first used this source in the context of understanding Persian manuscript culture and materials.

<sup>41</sup> G. Bosch et al., *Islamic bindings and bookmaking* (1981), p. 66, quoting Sufyani: "Then when you have finished making the stamp fold the edges of the leather upon the edges of the pasteboard – so when you finish the work of the first cover lay it upon the marble slab before you [...]. While the book rests on the first cover, the second board is pasted and covered with leather". A. Gacek, 'Arabic bookmaking and terminology as portrayed by Bakr al-Ishbīlī' (1990-1991), p. 109: "The next step [...] was to pare the leather and mount it on the boards [...]. It was done with one or two pieces of leather".

the procedure. These are, however, easily overcome by using a different method: the two-piece leather technique. With this method, both boards are prepared separately and individually, each of them covered in its own piece of leather, the back board with the fore-edge and envelope flap attached. The boards are attached to the textblock one by one, with the leather that extends from the spine edge, which is adhered onto the textblock spine.

Thus, this method allowed for a controlled positioning of the boards on the textblock while it enabled the binder to first concentrate on the delicate tooling of the covers. The boards were covered with leather, the exterior decorated and only then after that were the individual boards positioned and attached to the textblock by adhering them with the extending leather to the spine. This leather at the spine side was pared until it was extremely thin at the edge, though not necessarily straight. After adhering both parts to the textblock spine, they were rubbed together on the spine with a bonefolder or similar tool after which the overlap is hardly visible. The use of similar pieces of leather added to the subtle result. After the boards were thus attached, the binder secured the construction by means of the flanges of the spine-lining, which were pasted onto the inside surface of the boards, and then the doublures were applied.

The two-pieces technique is typically suitable and applicable for full leather bindings which had their covers decorated with tooling or stamping. In fact, the technique seems so inappropriate for *çaharkuše* bindings, that the few occurrences made with two strips of spine-leather are assumed to have been made that way rather mechanically.<sup>42</sup> The existence of these types will be further discussed below, in paragraph 3.4, 'Tabbed partial leather bindings'. Without primary documentation indicating why both techniques (one and two pieces of leather) were used to produce full leather bindings simultaneously, we will have to consult the manuscripts themselves, as physical examination may provide clues that shed light on the decision criteria. It is important to keep in mind that the techniques may have been commutable, and that preference for the one or the other was only determined through culture or tradition, or, on a different stratum, through master- and apprenticeship. Even though questions still remain with regard to the development of the two-pieces technique, to understand the Islamic manuscript tradition it is important to be aware of its use and prevalence. This is all the more an issue since the Islamic manuscript structure is often designated as a case-binding, meaning that the binding is made as a separate entity, apart from the textblock, only to be applied in the last act in the process of bookbinding. That typification is contradicted by the two-pieces technique, even though the two separate covers are partly prepared in advance. In essence, the two-pieces technique is a built-on structure, since the cover is assembled on the textblock. And in addition, the Islamic binders used other techniques that can be classified as 'built-on' bindings, as is further explained in the paragraphs below.

### 3.2 'Built-on' bindings

Above, the two-pieces technique is described as a method used to cover the loose boards individually and beforehand. The development of this method – which appears to be unknown to other bookbinding traditions in the region – can be explained by relating the advantages of this practice to the high standard of binding decoration that can be found on

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<sup>42</sup> Since *çaharkuše* bindings are generally executed with paper panels covering the boards, which are only rarely tooled, the initial reason to use the two-pieces method is not in order. For sheer practical reasons the two-pieces technique seems unsuitable for the making of *çaharkuše* bindings when the boards would be covered apart from the textblock, prior to attachment to the textblock: only a small part of the spine-leather strip is adhered onto the board and this would easily detach if the boards were thus prepared. The two-pieces technique in these cases seems rather to fit in the category of the built-on bindings, see paragraph 3.2 below.

the earliest exemplars displaying the two-pieces technique.<sup>43</sup> It is, however, also feasible that a full leather binding, using the two-pieces technique, was built on the textblock. The boards would then not be prepared and covered with leather in advance, apart from the textblock. Instead, each piece of leather would be applied to the board and textblock spine, in one continuous action. For this procedure, the board would have to be positioned on the textblock, though its attachment to the spine-lining flange was not required in this stage yet. The resulting structure of either application method is similar, though the latter would have had consequences for the decoration. For when the leather is applied to the boards, positioned on the textblock, and adhered to the spine at the same time, any tooling had to be executed on the assembled binding.<sup>44</sup>

To build and assemble the binding on the textblock in separate stages is a method not only used for full leather bindings made with the two-pieces technique. It is also found with full leather bindings covered in one piece of leather, and it was used to make partial leather bindings. This contradicts the common assumption that Islamic bindings were case-bindings, therefore it is necessary to examine the evidence that was found and the rationale behind the built-on technique in detail.

Especially for *çaharkuşe* bindings it makes sense, technically, to manufacture them in this fashion. The boards were positioned on the textblock, then the leather was applied – first to the textblock spine, then folded over the joints and onto the boards. Theoretically partial leather bindings can be made separate from the textblock (as a case), but of course the same argument applies as with full leather bindings: the risk is that the spine-leather and joints with the boards do not exactly match the textblock spine, in which case the boards do not fit or close properly. Equally when the textblock does not have exactly straight angles, it is not easy to make a case-binding fit beautifully. But a particular disadvantage of making a partial leather binding as a case is the substantial instability of the product. The overlap of the spine-leather on the board edges is so small that it is actually not feasible that the cover was made this way. For, at this point in the construction there would be no other material whatsoever to stabilise the cover on the inside; the leather was not turned in over the joints (which could have steadied the binding, had it been made as a case). The chance that the boards – particularly the back board with the flap attached – would detach from the small leather overlap is evident. When, in contrast, we imagine the making of a partial leather binding as a built-on binding, no such complications are encountered. The application of the spine-leather, first to the textblock spine and then to the boards (put in place on the textblock or even already attached to the flanges of the spine lining) is a controllable and effective procedure.

In advance of the analysis of the five historic texts (Part Three) it is useful to already mention here that two of the primary sources indicated the variant method of construction, in which the cover attachment is divided in stages. Ibn Badis clearly described the board attachment to the textblock prior to the leather application. Ibn Abi Hamidah pointed at the same method, describing the mounting of the leather to begin on the spine, and only then over the front and back covers.<sup>45</sup> The fact that this *built-on-textblock* structure is mentioned in historical sources is interesting since it is contrary to what later has become the accepted classification of the archetypal construction, namely, the case-binding. The inappropriateness of that designation will be discussed further under paragraph 4, 'A problematic term: Case-binding'. To find this built-on procedure in the primary sources is also noteworthy because,

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<sup>43</sup> See Part Five, paragraph 4.2; the two-pieces technique was found on several elaborately tooled Mamluk bindings.

<sup>44</sup> It is well conceivable that over the sixteenth and seventeenth centuries, while the art of embellishing bindings lavishly in gold was declining and the partial leather binding became more common, the original motive for the development of the two-pieces technique was gradually forgotten, causing the procedure to change.

<sup>45</sup> For a more thorough description and full references see Part Three, 1.2 and 1.5.

when these treatises were written, the çaharkuşe technique was not yet in vogue; only full leather bindings were being made. Thus these written accounts indicate the usage of the technique to assemble the cover on the textblock for full leather bindings. For practical reasons it is perfectly acceptable that this technique was commonly used for the manufacture of bindings in general. But, can physical evidence be found to prove this method was actually used?

When looking for evidence of boards being attached prior to the covering material, the order of layers found on the inside of the joint reveals much about working methods. If a binding was prepared separately from the textblock, except for the doublures and inner joints which are formed by the spine-lining flanges, one would expect to always find the flanges on top of the covering material turn-ins.<sup>46</sup> However, in several manuscripts the encountered sequence of materials is reversed. [fig. 71] This indicates that the boards were first attached to the flanges and the covering material was only turned in over the board edges afterwards; the turn-ins therefore cover part of the flanges and possibly even the additional inner joints.

Further proof of the usage of the built-on method is provided by bindings with the textile flanges pasted onto the outside of the boards. Although examples are scarce, as this characteristic is only visible when damage gives access to the structure, it is obvious that this method of board attachment is only possible when the covering material is not yet applied. Therefore, it proves that the boards of these volumes were first attached to the spine-lining and covered afterwards. [fig. 72]

There is one more indication that the built-on method was widely used. It is the characteristically tabbed leather spine covering; its significance is explained below.

### 3.3 *Tabbed spines*

We can learn more about how Islamic bindings were actually made when we examine them in more detail; especially the investigation of the leather application and the method to finish the head and tail of the spine offers new insights. As explained above, in many cases the spine-leather protrudes at head and tail, forming a tab that is frequently moulded over the endbands to protect them. [figs. 73, 74] When no tabs are present the leather is, or appears to be, cut off straight at the board edge. A reservation needs to be made because it is hard to establish whether the spine-ending is intentionally flush with the boards, or if damage of the tabs forced owners or users to cut the tabs in order to prevent further damage. Either way, it is clear that also in the flush version the leather was not turned-in on the spine. Turned-in spine-endings appear to be an absolute exception, irrespective of the covering method (leather in one piece, leather in two pieces, or partial leather bindings). In and of itself this is interesting because it supports the assumption that the Islamic binding structure is not a case-binding. To understand this we must visualise the stages necessary for covering the boards.

If a binding was prepared separate from the textblock, it would have been easiest to turn-in the leather at each side of the cover, head and tail, over the front and back board edges at the same time. As a result, the leather on the spine would be turned-in at head and tail as well; it would pass continuously over the spine from cover to cover. Such a turned-in spine-ending is, however, hardly ever encountered, as stated above. The other – predominant – types of spine endings, the tabbed version with the leather extending beyond the board edges and the one cut flush with the board edges, would require extra treatment when the cover was made as a case: the leather had to be cut at the joint before it could be turned in over the board edges while leaving the spine-leather to extend. An additional horizontal cut was also needed if the leather was not left to extend in a tab. Since we can assume that

<sup>46</sup> In fact, this sequence of materials is often encountered. From the making of mock-ups it indeed appeared practicable to first apply the leather on boards and textblock spine, and only then adhere the extended sides of the spine-lining onto the inside of the boards, thus covering the turn-ins.

binders did economise and refrained from unnecessary actions, the question arises what this implies.

One could argue that the reason for choosing this more elaborate technique originated from wanting to produce a compact and straight codex form; the binder may have wanted to avoid the additional swelling of the spine at head and tail that could have been caused by turn-ins. However, the excellent paring skills of these binders (as with the almost invisible seam along the spine where two pieces of leather have been joined) almost certainly rules out this explanation. Furthermore, from the investigation of wrapper bindings on unsewn manuscripts we learned that these wrapper bindings all have their spine-endings turned-in. Yet the technique is not found in attached bindings, so evidently it was used very selectively and intentionally. Then why did binders choose to cut the covering leather at the joints as described above?

Let us imagine the making of a cover when it is built upon the textblock, as opposed to a case-binding. When we consider the handling of the leather as it was applied to a textblock spine, with the boards either already attached (to the flanges of the lining) or at least positioned on the outer leaves of the textblock, it does make sense that the leather on the spine was not turned in. After all, the spine-lining covered the textblock spine from head to tail and the covering leather was pasted directly onto it; the leather then crossed the joints and was pasted onto the boards. To turn the leather in at head and tail of the spine, it would be necessary to loosen the already adhered leather at the outer spine ends, thereby also causing tension on the tiedowns of the primary endband sewing, for they pass over the spine-lining at the spine ends. Leaving the leather to protrude at head and tail meant that such risks were avoided. One of the historic treatises on bookmaking clearly suggested that the leather, after pasting it onto the spine and the outside of the boards, is first left to dry before the turn-ins are made.<sup>47</sup> This method certainly did not allow for making turn-ins at head and tail of the spine very easily. Apart from that it would be necessary to incise the textile or leather flanges of the joint at head and tail in order to make the turn-ins, when in this stage the full length flanges of the spine-lining were already adhered onto the inside of the boards. Thus, turn-ins at head and tail of the spine caused risk of damage to the endband tiedowns and weakened the structure. Instead, the alternative – cutting the extending covering leather at the joint, turning it in over the board edges but leaving the leather spine protruding beyond the edge –, seems sensible and practical. [fig. 74 illustrates the method as the cut was made a millimetre or two deeper than necessary]

The extending spine leather may have been too long or uneven, which may have prompted the bookbinder to trim the tab. Examples can also be found of tabs that seem to have been cut to size in situ. In those cases a thin knife cut is visible in the head and tail edge just beyond the endband, which seems to point at a method in which the protruding spine leather was folded over the endband and then cut, using the textblock edge as a support.

#### 3.4 *Tabbed partial leather bindings*

In this respect it is especially edifying to consider the making of a *çaharkuşe* binding. The leather was smeared with paste and then adhered to the spine. It was rubbed with the thumb or a bone-folder after which the leather was folded over the joints and onto the boards that were positioned on the textblock. Since the overlapping part of the leather on the boards was only small, generally a few millimetres but sometimes up to one and a half centimetre, the binder probably waited before making the turn-ins until the adhesive had dried and the leather was firmly set. Only then did he proceed with turning the leather at head and tail over the edges of the board, onto the inside of the boards. Otherwise, the small leather strip would not have stayed in place because, to make the turn-ins, the board needed to be lifted and that

<sup>47</sup> “Turn-ins are done as a final step when the spine has satisfactorily adhered to the leather”, A. Gacek, ‘Ibn Abi Hamidah’s didactic poem for bookbinders’ (1992), p. 42.

movement would cause the still moist leather to detach from the board edge. As explained above, in order to make the turn-ins over the board edges after drying, an incision in the leather at the positions of the joints was necessary, since the complete adhesion of the spine-leather onto the textblock spine prohibited the making of a turn-in continuous over the spine (see also figs. 211-214, Part Six). The leather at the outer ends of the spine was thus left to extend over the endbands. The appearance of so many *çaharkuşe* bindings with tabs indicate this was regular practice.<sup>48</sup>

The theory that partial leather bindings were built onto the textblock (instead of being made as a case-binding) is also supported by the fact that a fair number of them were made in the two-pieces technique.<sup>49</sup> To envisage their manufacture as a case-binding plainly shows that such a procedure is unfavourable: the strip of leather needed for a partial leather binding's spine is small and using two strips of leather would only complicate the process. Moreover, as the boards of partial leather bindings are rarely tooled, this covering method did not require the two-pieces technique.<sup>50</sup> Nevertheless, it is well conceivable that the boards were prepared separately up to the application of the spine-leather (e.g. with the flap attached and all board edges covered). However, with the *çaharkuşe* technique, the part of the spine-leather that is pasted onto the board edge at the joint is minimal; the leather strip might easily dislodge when it would be applied before board attachment. It therefore seems more plausible that the board was positioned on the textblock, and the strip of spine-leather was applied to textblock spine and board edge in one go. This relatively simple procedure certainly doesn't require the use of two separate strips of leather, one for each board. Thus, a single occurrence of a *çaharkuşe* binding with the two-pieces technique could be dismissed as the odd one out. However, the number found in the UBL collections is too large for the phenomenon to be dismissed as an aberration. The examples may therefore indicate that some binders rather automatically used techniques they had learned and applied when covering bindings in full leather, without adapting their approach to this different design. Yet, this theory suggests that the two-pieces *çaharkuşe* bindings mainly occur shortly after the introduction of this partial leather covering technique when binders were not yet accustomed to the procedure, which is refuted by the survey results. Partial leather bindings made with a two-pieces technique have been made throughout the manuscript period.

### 3.5 *Tabbed 'two-pieces'*

In conclusion, the existence of tabs argues in favour of the method of 'building' the binding on the textblock for partial leather bindings and the full leather coverings made with one piece of leather. But how does the occurrence of tabs correspond with the two-pieces technique? The best way to fathom the ways of craftsmen is often to retrace their steps. I therefore made models, and to get this specific structure right it appeared necessary to 'try on the individual covers' on the textblock. That is, in order to be sure that the two overlapping pieces of leather do indeed overlap on the spine, close to one of the shoulders and not beyond (in the joint where the flexing material would easily be damaged), the leather is best applied to the paste-board when positioned on the textblock and then over the joint, on the spine.<sup>51</sup> Subsequently, the spine-leather can be marked so that it extends precisely far enough. In this procedure it is logical to make the incision in the leather at the joint at this point. The cut is made a few millimetres away from the board-edge so the joint's edge is covered at head and tail, and its

<sup>48</sup> Data on the occurrence is found in Part Four, paragraph 2.6, and Part Five, paragraph 5.1.

<sup>49</sup> As a result of the survey 25 examples of *çaharkuşe* bindings made with the two-pieces technique have been located, see also Part Four, paragraph 2.5.

<sup>50</sup> As we will see, the exceptions are bindings with leather spines and lacquer boards.

<sup>51</sup> This is in fact exactly what al Sufyani describes: the boards are positioned on the textblock temporarily to apply the leather pieces. See his chapter three, on "how to tie the quires of the book, the pressing, the covering with leather, designing its center, how to work the headband" in: M. Levey, *Mediaeval Arabic bookmaking* (1962), pp. 52-53.

exact position can be clearly established when the board is still positioned on the textblock. It allows for the turn-ins to be made later, and leaves the leather for the spine long enough to cover the spine and endbands. After that the leather, with the board attached, is taken from the textblock to do the final paring. As a consequence, the leather is already adhered to the board but not yet turned-in. According to Sufyani and Al-Malik al Muzaffar, paste is applied to the boards rather than to the leather, a method very suitable for this working procedure.<sup>52</sup> The turn-ins were made either before or after the tooling was carried out but presumably before the individual covers were returned and attached to the textblock. After attaching the two separate covers to the spine both pieces of extending spine-leather form a single tab (at both head and tail).

### 3.6 *Indeterminate structure*

It has become evident that for certain structures the technique of leather application or the function of the spine-lining provides decisive evidence for classifying the structure technically. Both full-leather bindings in the two-pieces technique as well as partial leather bindings are in some way built upon the textblock. However, some full leather bindings bound in one piece of leather do not provide such direct evidence, even though the tabs suggest a built-on technique; as a result their structure cannot be classified conclusively. Technically speaking and based on the visual evidence, these bindings can either have been made as a separate entity, or the covers were built on the textblock. As the latter appears to be the general production method, it seems reasonable to expect that those bindings were constructed as built-on bindings as well, despite the remote chance that they were made as a case.

## 4 **A problematic term: Case-binding**

### 4.1 *A matter of definition*

As the literature analysis in Part Three will show, in modern literature on Islamic manuscripts the bindings are often characterised as case-bindings. The difficulty with this term is twofold. Firstly, the definition is not applicable to the commonly used structures, the two-pieces technique and the other built-on bindings, as argued in the paragraphs above. Secondly, the connotation with Western case-bindings generates confusion similar to the use of the terms 'half-leather binding' or 'headcap', as discussed under *Terminology* at the beginning of this Part. However, since the use of the term is widespread, its inappropriateness needs further explanation and argumentation.

To start with the definition: in Western book descriptions a distinction is drawn between inboard-binding and case-binding. Inboard-binding is considered craft bookbinding; each binding is unique since it is made individually and constructed onto the textblock. Case-bindings, however, are associated with edition binding, although they are not necessarily made in large numbers. A case-binding is simply defined as a cover that is made (as a case) separately from the textblock and later attached by adhering the endleaves of the textblock to the inside surface of the boards of the case.<sup>53</sup> This generally accepted term also immediately

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<sup>52</sup> G. Bosch et al., *Islamic bindings and bookmaking* (1981), pp. 66-67; A. Gacek, 'Instructions on the art of bookbinding attributed to the Rasulid ruler of Yemen Al-Malik al-Muzaffar' (1997), p. 63.

<sup>53</sup> M.T. Roberts and D. Etherington, *Bookbinding and the conservation of books. A dictionary of descriptive terminology* (1982), p. 47. Revised in 1994 and also accessible online: <http://cool.conservation-us.org/don/don.html>. The definition provided by Bernard C. Middleton points out the completed state of the case-binding, with which the Islamic two-pieces technique is clearly disqualified from being a case-binding: B.C. Middleton, *The restoration of leather bindings* (1998), p. 15: "Case binding. In a case-bound book, the cover is made separately from the rest of the book and put on in one piece, as distinguished from the type of binding in which the cover is assembled on the book."

brings to mind an archetype with a hollow back.<sup>54</sup> Islamic bindings could hardly be more remote from this picture. Their cover spines are adhered to the textblock spine and the function of doublures cannot be compared with Western endleaves since they hardly ever form part of the textblock. Thus the question arises: What exactly is assumed when this designation is used for Islamic manuscripts?

#### 4.2 *Counter-evidence in the structure*

Although the method to produce a full leather binding with two pieces of leather was common practice, the technique is overlooked and hardly referred to. It is, however, significant to acknowledge its widespread use. Ultimately it is clear that the two-piece leather technique is not a case-binding structure, it cannot be passed off as such because the covers are clearly made separately and then individually applied to the textblock one after another. As explained, the likely reason for the development of the technique has to do with the effort to improve the quality of tooling and to avoid the risks of an imperfect fit. The fact that much care was taken to pare the leather edges thinly and evenly so as to prevent the seam from being visible, proves excellent and accurate craftsmanship. Conversely, the label case-binding suggests a working procedure in which separate bindings are relatively quickly produced by individual craftsman not necessarily involved with the treatment and sewing of the textblock. While this perception adds to an image of economic book production, it also misjudges the particular care taken to produce Islamic manuscripts and consequently underestimates the *métier* of the binders who worked in the Islamic tradition.

#### 4.3 *The dual function of the spine-lining*

As described above, the majority of Islamic manuscripts were sewn with a link-stitch, most often using two sewing stations. Consequently there are no sewing supports that can be used to attach the boards, nor are the boards connected with the sewing thread in any way. The connection between textblock and boards is therefore indirect, by means of the covering material and the inner joints or hinges. In the majority of cases the latter are formed by the extended sides or flanges of the full-length leather or cloth spine-lining.

The dual function of the spine-lining is essential in this respect. The full-length lining is pasted on the textblock spine, covering it from head to tail, and the anchoring tiedowns of the primary endband sewing are only sewn after the paste has dried. Without support of the

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<sup>54</sup> Several glossaries provide comparable definitions. For example, E. Diehl, *Bookbinding. Its background and technique* (1946, republished in 1980), vol. II, p. 377: “Cased book. A book which is held to its covers, or casing, only by the means of pasted down end papers, which are sometimes reinforced”. See also J. Greenfield, *ABC of bookbinding. A unique glossary with over 700 illustrations for collectors and librarians* (1998), p. 14: “Case binding: A protective cover, used since the 1820’s, made separately from the bookblock. The bookblock is then attached to the case by gluing the hinges, sewing supports and paste-downs. The spine of the case is not adhered to the spine of the textblock”.

A much more nuanced definition is provided by *Ligatus*, a terminology for bibliographers and conservators <http://www.ligatus.org.uk/glossary/alpha?beta?page=4> (accessed 18-07-2012). Here a meaningful distinction is made between case-covers and case bindings. *Case* (provisional definition for the *Ligatus* glossary): “A cover which is complete in itself before it is attached to a bookblock. It may or may not have boards and other components in addition to a cover but no part of it can have been attached to the bookblock separately before the cover was attached. In almost all recorded examples, the spine of the case-cover is not adhered to the spine of the bookblock, but is left instead with a natural hollow back. In tacketed case-covers where the tackets hold the case-cover tightly to the bookblock across the spine, the natural hollow back may be closed, though no adhesive is used in this structure. Most case covers will be found on case bindings, but the covers found on longstitch bindings [...] are also typically made in the form of a case from single pieces of parchment or cartonnage folded around the entire bookblock. They can therefore be described as case covers, but as the gatherings are sewn to them and they cannot be removed from the bookblock without cutting the sewing and taking the book apart, they cannot be described as case bindings”.

lining the gatherings would be much more vulnerable to tearing, and without the flanges the board attachment is feebler. This two-fold function of the spine-lining conflicts with the definition of a case-binding because the connection between cover and textblock cannot be broken without interfering with the sewn structure of the book.<sup>55</sup> When the binding comes away from the textblock there is nearly always severe damage to the structure and the textblock because the spine-lining is structurally connected to both. The covers themselves, however, are not necessarily harmed when separated from the textblock. In fact, they are sometimes preserved without their original contents and there are abundant examples of covers that have been reused. The term case-binding may have been introduced because of this; the cover appears, very deceptively, to have only a minimal, superficial connection with the textblock. But, in-between the cover spine and the textblock spine sits the inconspicuous spine-lining, and its function is structurally crucial for the construction. It seems that this characteristic alone disqualifies Islamic bindings from being classified as case-bindings.

Photographs of the condition of Or. 1079, before conservation treatment, illustrate the confusion caused by the damage typical of the construction. [figs. 75, 76] The sewing thread and endband's tiedowns are still in place, yet the textblock has come loose from the binding, although the joints are not torn. The cover seems to have cleanly parted from the textblock. Therefore, at first glance it looks as if the cover was prepared separately from the textblock, and the spine-leather was pasted onto the textblock spine (as the only attachment!), which has now come loose. Evidence on the spine-lining leather, however, proves otherwise. This spine-lining is now adhered to the inside of the covering leather, and when closely examined damage is evident at head and tail. Parts of the outer ends are missing, which are still stuck underneath the outer tiedowns: the endband warp threads on the spine. This clearly indicates that the primary endbands were sewn through the spine-lining and that the lining was once structurally connected to the textblock. The endbands were sewn *after* the lining was pasted onto the textblock spine, but of course *before* the leather exterior covering could have been applied. The flanges of the spine-lining were pasted smoothly onto the inside of the boards before the doublures were applied. Deterioration of the adhesive has weakened such constructions in many cases and once the adhesion becomes insufficient, tension on the tiedowns may cause either damage to the threads or tears in the spine-lining material, which may result in the complete disconnection of the binding.

#### 4.4 *Misjudgement caused by a Western perspective*

The use of leather as spine-lining material may have added to the confusion, for in the Western bookbinding tradition the use of leather is almost solely reserved for the covering of the boards.<sup>56</sup> Moreover, the way Islamic binders applied this particular piece of leather is completely opposite to the 'Western way', for the leather is adhered to the textblock on the grain-side. The reason to apply the leather thus is clear. The extending sides of the lining are subsequently used to strengthen the board attachment while part of these flanges will remain visible as the inner joint. For aesthetical and practical reasons the outward surface of this small strip of leather in the joint is preferably the grain-side. The grain side is usually the embellished side; moreover, when leather doublures are used the grain patterns match nicely

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<sup>55</sup> The second part of the explanation in the *Ligatus* definition illustrates this, using longstitch bindings as an example; see note 53 above. Although longstitch bindings are substantially different from the Islamic book structure in that their cover spine is not adhered onto the textblock spine, the fact that the covers cannot be dismantled without causing damage to the structure is important to the applicability of the term.

<sup>56</sup> It is known that spine-linings with leather can be found on Romanesque and early Gothic bindings, although these linings often consist of patches of leather rather than full-length spine-linings. Already in the first half of the fifteenth century the use of parchment as spine-lining material exceeded by four times the use of leather which soon died out altogether. See J. Szirmai, *The archaeology of medieval bookbinding* (1999), pp. 126-127, 157-158, 190, 194-196.



Fig. 75. Or. 1079. The textblock is detached from the binding. The leather textblock spine-lining still remains adhered to the inside of the leather covering, grain side facing outwards.

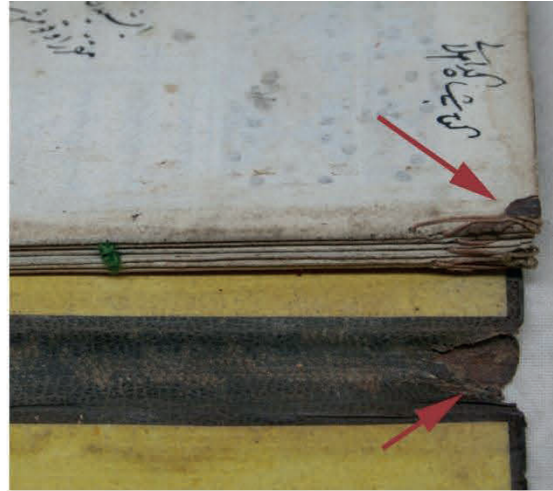


Fig. 76. Or. 1079. Detail of the spine at the head, which shows the damage to the spine-lining leather and the remnants of it still stuck underneath the tiedowns.



Fig. 77. Or. 12.831 (Indonesia). A leather board; the rodent damage at the front edge reveals the core material.



Fig. 78. Or. 5467 (Indonesia). The board consists of a woven sheet of fibrous plant material.

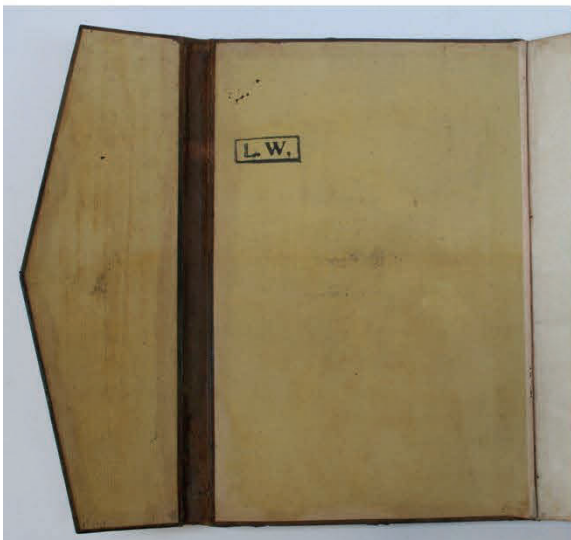


Fig. 79. Or. 155. A flexible fore-edge flap, without a board.



Fig. 80. Or. 10.783 (1869). A fore-edge flap with a narrow and a broad joint. The board in this part of the flap is visible between the two arrows.

and the seam between both pieces does not catch the eye. The practical reason for applying the leather in this particular way is that the inner joint is subject to flexing; the fibrous surface of the flesh side of leather would be more vulnerable to damage, delaminating and incrustated dirt.

Notwithstanding these good reasons, to Western observers it is highly unusual to adhere leather on the grain, and consequently, when they see detached covers like the one in Or. 1079 the obvious conclusion they come to is that this spine-leather belongs to the interior of the cover, for the grain of the leather they are facing corroborates the idea that leather is applied on the flesh side. Therefore, at least for those familiar with Western book structures and materials, the leather interior of the spines of loose Islamic covers is not always recognised as being initially part of the construction. On the contrary, it is observed as the finishing of the cover.

The other cause for misinterpretation is the fact that leather inner joints also occur in Western bookbinding.<sup>57</sup> Their structural function is, however, not comparable to the structure of Islamic manuscripts. Western binders added small leather strips either around the endleaf units, in which case they were sewn with the textblock, or they were simply pasted across the joint, resulting in a purely decorative element. The construction of the leather joints in Islamic manuscripts – coming from the spine-lining – is rather distinct, but when they are not recognised as the lining extensions they are easily misjudged. As a consequence, their structural function is not appreciated either.

#### 4.5 *The impact of a leading opinion*

Modern research on the technical aspects of Islamic bookmaking is scarce, so it is understandable that the first publication to elaborate extensively on the structures and materials used, *Islamic bindings and bookmaking* by Gulnar Bosch, John Carswell and Guy Petherbridge (1981), is much referred to and often cited.<sup>58</sup> The authority this publication gained, however, has also contributed to the acceptance of certain stated facts, which were not easily questioned afterwards. The Islamic binding structure was designated by the authors as a case-binding, and this has become its subsequent characterisation, even though the evidence to prove the opposite is provided by the objects themselves. My observations of the constructions of the manuscripts I needed to treat for conservation purposes, led me to doubt the correctness of the assumption that Islamic bindings were made as a separate entity, apart from the textblock. Examination of the fairly large and diverse group of manuscripts in the current research advanced counter-arguments and it became possible to refute the supposition.

In sum, perhaps it would be more just to say that Islamic manuscripts often are *labelled* as case-bindings instead of them being *perceived* as such, for it seems that the designation has often not been given much thought or attention. Nevertheless, the introduction of the term case-binding and especially the continuation of its use to describe this type of Oriental bindings does illustrate a widespread misunderstanding of the Islamic book structure. As a consequence, it has promoted the idea that the structure is not up to the high standards of the calligraphy and illumination in the manuscripts, nor to the quality of the bookbinding design. Moreover, it also resonated with the idea that the Islamic book-structure is inferior to Western binding techniques.<sup>59</sup>

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<sup>57</sup> Leather joints became popular in Western bookbinding in the second half of the eighteenth century, although they were first used in the late seventeenth century, particularly in France. The leather inner joints in Western bookbindings are most commonly found in fine bindings, and the vast majority of the leather joints are simply pasted over the joint, and not sewn together with the outer gatherings. B.C. Middleton, *A history of English craft bookbinding technique* (1996), pp. 50-51.

<sup>58</sup> This publication and its influence will be further discussed in Part Three.

<sup>59</sup> Workshops on Islamic bookbinding, organised over the past decade by Western bookbinders or conservators, attest this; see Part Three, paragraph 6.3. I further elaborated on this topic at the “14<sup>th</sup>

That deeply rooted idea has of course affected many preservation treatments. In order to ‘repair’ the supposed defect in structure, conservators overcompensated by using multiple sewing stations, by sewing through newly added spine-lining cloth or applying thin, flat sewing supports. Structures have been further changed by introducing leather or linen inner joints – conforming to Western methods developed in the eighteenth century – with the intention to strengthen the board attachment. Even hollow spines and ‘quarter-joint’ structures were used to ‘improve’ the original construction.<sup>60</sup>

## 5 Other characteristics

In the forgoing discussion, Islamic bookmaking has been approached by examining the different techniques, arranged according to the actual bookmaking procedure: sewing, lining, endbanding, application of the boards and covering. Thus the variety in methods available to the Islamic binder was sketched. However, apart from differences in structure as specified above, other characteristics distinguish certain groups of manuscripts from others, such as the materials used and the treatment of particular components. As the survey results show (Part Four and Five), these characteristics can provide evidence for the origin and dating of the objects.

### 5.1 Boards

Without a doubt board covers are predominantly made of laminated paper sheets. These paste-boards consist of two or more sheets, and because of the frequently damaged covering material on the board edges we can see that often waste paper and discarded fragments were used for the purpose. Other cores consist of paper pulp boards. The average board is not very thick, approximately 2.4 millimetres<sup>61</sup>, and if not semi-flexible, then at least not completely rigid either. However, covers with very thin or even no boards are encountered, as well as remarkably thick and solid ones. Occasionally other materials were used to make up the boards. In several cases a thick piece of leather was found below the leather coverings, and in a few instances the covers contain a sheet of woven rattan or bamboo, or similar plant fibre material. [figs. 77, 78] It must be added, of course, that in many bindings the boards are not visible.

Usually the envelope flap has a core the same thickness as the covers. The core of the fore-edge flap often has the similar consistency too. Some examples of deviations are discussed in the next paragraph.

### 5.2 The fore-edge flap

Not as prominent a feature as the envelope flap, the fore-edge flap is primarily the necessary flexible linkage between the back board and the pentagonal flap. Both flaps have the function to protect the fore-edge of the textblock, and with the envelope flap secured underneath the front cover the book is closed and protected from dust and mechanical damage. Often the envelope flap was included in the binding design, and sometimes it contains text, applied with stamps. The construction of the flap is uncomplicated. The large majority of flaps have boards, as thick as the covers and envelope flap. Usually the width of the fore-edge flap core

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Symposium on care and conservation of manuscripts”, Copenhagen 2012, see K. Scheper, ‘Neither weak nor simple. Adjusting our perception of Islamic manuscript structures’ (2014), pp. 253-269.

<sup>60</sup> Examples of such conservation treatments are given in Part Three, paragraph 6.1. The “quarter-joint case” or “Viertelfalzeinband” and its merits are described by J. Szirmai, ‘Konservierungseinbände. Teil 2: der Viertelfalzeinband’ (1999), pp. 98-103.

<sup>61</sup> Although this feature has not been incorporated in the survey, a small but representative sample was taken to obtain this average by measuring the boards of the manuscript of every twentieth entry in the data-base.



Fig. 81. Or. 426 (1484, though resewn). The inside of the fore-edge flap; the double small core is distinguishable by the dent in the middle and the form of the damage at head and tail.



Fig. 82. Or. 426. Detail of the exterior of the fore-edge flap. Because of the damage and the delaminating boards the double cores are clearly visible.



Fig. 83. Or. 854. The interior of the fore-edge and envelope flap are lined with leather, the front and back boards with dyed paper.



Fig. 84. Or. 6892 (1769, India). The leather stub, extending from the doublure, appears to have a decorated cut edge because it is partially covered with a paper strip that is decoratively cut on its right side.



Fig. 85. Or. 1604 (1757). The fore-edge flap is lined with leather. The doublures of the envelope flap and the covers consists of marbled paper. The doublure is extended with a stub (indicated with an arrow) which is pasted over the joint, onto the outer leaf of textblock.



Fig. 86. Or. 11.526. A block-stamped paper doublure and a leather inner joint which is not an extension from the spine-lining, but an additional strip pasted along the gutter of the outer textblock leaf, over the joint and onto the board.

corresponds with the thickness of the textblock. Its exterior is covered in leather and the leather also forms the joints. At head and tail the leather is turned-in and the interior is lined with either leather, textile or paper. The survey results in Part Four and Five will provide more details but generally it can be said that textile and paper linings of the fore-edge flap were used in the later centuries of the manuscript era.

Because the manner in which nearly all flaps were produced appears to be so consistent, the few anomalies encountered do catch the eye. The first diverging group of manuscripts is formed by bindings without a core in the fore-edge flap. Those flaps consist only of two layers of material: the leather of the exterior covering and the material from the doublure or separate fore-edge flap lining. [fig. 79] A second type of fore-edge flaps combines a narrow and a broad flexing joint. The board in the flap is then narrower than the thickness of the textblock, the narrowest joint is adjacent to the back board and the widest (and thus more flexible) joint is adjacent to the envelope flap. [fig. 80] In several publications it is suggested that apart from serving to protect the fore-edge of the manuscript and safeguarding the whole item from dust and deformation, the envelope flap could also be used as a reading aid and bookmark.<sup>62</sup> It seems that this theory can only be true for manuscripts with these flexible fore-edge flaps. The majority of the bindings have fore-edge flaps with rigid cores the width of the textblock thickness, which will not allow these flaps to be inserted half or three quarters of the way through the book. On the other hand, some manuscripts have flaps with very narrow fore-edge flaps that require insertion in the textblock simply because they do not reach as far as to the front cover. It is obvious that these short flaps cannot serve as a bookmark for the first part of the textblock.<sup>63</sup> A truly functional bookmark should be flexible enough to be stuck into the book at any opening. The form of the flaps, even the flexible ones with the somewhat wider joint on the envelope flap side, do not allow that function. The main and perhaps sole purpose of the flap therefore seems to be a protective one, although this does not explain the preference of some binders to manufacture flaps with a broader joint adjacent to the envelope flap. An interesting anomaly in the fore-edge flap construction again hints at the purported use of the flap as a bookmark. It concerns a fore-edge flap with a lengthwise split core, or rather two small cores adhered at a certain distance from each other so that the leather covering and lining in-between these two cores form an extra joint. [figs. 81, 82] This additional joint in the middle of the fore-edge flap allows for extra flexing. However, although this type of flap was perhaps developed to create a multi-functional flap, only one specimen of it was found in the UBL collections.

### 5.3 *The envelope flap*

The pentagonally shaped flap is undoubtedly one of the most characteristic features of the Islamic manuscript. It has been suggested that the use of the flap diminished only in later centuries, presumably under Western influence and mainly in the peripheral regions.<sup>64</sup> However, authentic bindings without a fore-edge and envelope flap were already made in the heartland of the Islamic world in the early sixteenth century. Slight differences in the shape of the flap can be noted. Some flaps for example are almost rectangular, or have a sharper point or are ogee-shaped (see also fig. 144 in Part Five).<sup>65</sup> A noteworthy divergence is a

<sup>62</sup> See for example Chr. Gruber (ed.), *The Islamic manuscript tradition* (2010), p. 15; A. Gacek, *Vademecum* (2009), p. 104.

<sup>63</sup> For conservators it is important to be aware of the occurrence of narrow fore-edge flaps; the assumption that a flap 'does not fit properly' may easily lead to a treatment decision that involves splitting joints in order to extend the material into a shape the original binding never had.

<sup>64</sup> See A. Gacek, *Vademecum* (2009), p. 27; Gacek says bindings without flaps appeared on the scene in the seventeenth century.

<sup>65</sup> A remarkable deviant shape was observed in a set of thirty juz', China 1730 AD, three of which were on display in the Museum of Islamic Arts in Kuala Lumpur, Malaysia in February 2012. These flaps were shaped with two tips instead of one, forming a kind of quarter-turned 'W'. Although mutually

binding type with a flap that contains a (remnant of a) leather strap at its point. Such straps were used for closing the binding and therefore clearly point to a different use of the flap: it had to be closed *over* the front cover so that the strap could be wrapped around the volume.

#### 5.4 *Decorative structural elements*

With the exception of block-stamped leather doublures and doublures decorated with filigree work and exquisite tooling or painted doublures, the interior of bindings has not received much attention in the literature. It is, however, interesting to look at the different parts that make up the interior and the materials and decorative techniques used to enhance their appearance. In general, the material on the inside of the front cover was also used on the back cover; the envelope flap and fore-edge flap though may be lined with different material. A first category is formed by leather doublures. With leather doublures, usually the envelope and fore-edge flap were also lined with leather, and often a continuous piece of leather was used for the back board and flaps: the interior was lined from the joint adjacent to the textblock to the point of the envelope flap. The joint itself is either a separate piece of leather, namely the extension of the leather spine-lining [fig. 83], or the doublure continued in a stub which was pasted onto the outer leaf of the outer gathering along the spine-fold. [fig. 84] Occasionally the leather doublure appears to be the spine-lining leather. That is the only exception to the rule that the doublures are made of separate sheets, for the extended spine-lining flanges used as doublures may consist of one piece of leather. However, there are also examples of doublures consisting of the leather flanges, made in two parts. Those parts were adhered to the textblock spine as with the two-pieces technique (see paragraph 2.5 and fig. 66). Which technique was used can only be revealed if the construction is damaged.

A plainer version is an interior with a leather lining on the envelope and fore-edge flap, but with other material used for the doublure on the back and front boards, usually paper, although sometimes cloth was applied instead. In these bindings, the envelope and fore-edge flap are lined with a single piece of leather. [fig. 83] More sober still, and this variety is very common, is the use of leather for the lining of the fore-edge flap only. The inside of both boards and envelope flap of such bindings were then covered with paper. [fig. 85] Without exception, the leather used was wide enough to also cover the inner joints and it overlapped on the vertical edges of the back board and the envelope flap. Thus, the strength, flexibility and durability of the leather were well utilised. These bindings demonstrate how binders economised on materials but also reflect their efforts to enhance bindings aesthetically, by using decorated or dyed papers and carefully choosing the colours of the materials.

When paper doublures were used, the construction of the inner joints varies. The joint may be formed by a single material, the leather flange of the spine-lining. Alternatively, when a cloth lining flange was used in the structure, a second layer of diverse material was applied to cover the cloth. This could be a separate strip of leather or paper, as long as the textblock and a few centimetres wide. Pasted over the joint and covering the outer textblock leaf along the spine-fold as well as the edge of the board, it was applied before the doublure. [figs. 86, 87] In other cases the paper of the doublure is larger than a single folio (which is also the size of the board) and extends on the spine side of the doublure, thus forming a stub that is adhered over the joint and onto the outer leaf of the textblock. [fig. 88] Or, alternatively, a stubbed leaf is applied as a tipped-on, along the gutter of the outer leaf of the textblock, thus forming a fly leaf and covering the inner joint, which is combined with a paper doublure. [fig. 89] Sometimes the outer leaves of the textblock were used as a paste-down. Finally, a strip of paper or leather could be applied over the primary inner joint (usually the extension of the

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divergent, the flaps clearly formed a group in their distinctive appearance. Envelope flaps shaped like this were not found in the UBL.



Fig. 87. Or. 2748. Simple paper cut work along the left side of the paper strip that was adhered over the joint as an inner hinge.



Fig. 88. Or. 546. A dyed paper doublure with a stub, which has a decorative cut edge.



Fig. 89. Or. 829 (1638). A tipped-on blank paper leaf with a stub, that crosses the inner joint and cloth lining flange underneath, and which outer end is covered by a marbled paper doublure.



Fig. 90. Or. 312 (1622). The leather doublures are modestly but finely gold tooled and gold sprinkled; the joints consist of leather from the spine-lining flanges.



Fig. 91. Or. 650 (fifteenth century). The leather doublures are block-stamped.



Fig. 92. Or. 270 (ca. 1500, Cairo). The leather doublure is gold tooled, and its central medallion and corner pieces are leather filigree, which are adhered over blue silk.



Fig. 93. Or. 565 (1564). The leather doublure was dyed blue and embellished with a leather overlay, pigments and gold tooling.



Fig. 94. Or. 1007a (1525, though resewn). The leather covering the exterior and the lining of the fore-edge flap are decorated with a painted floral pattern.

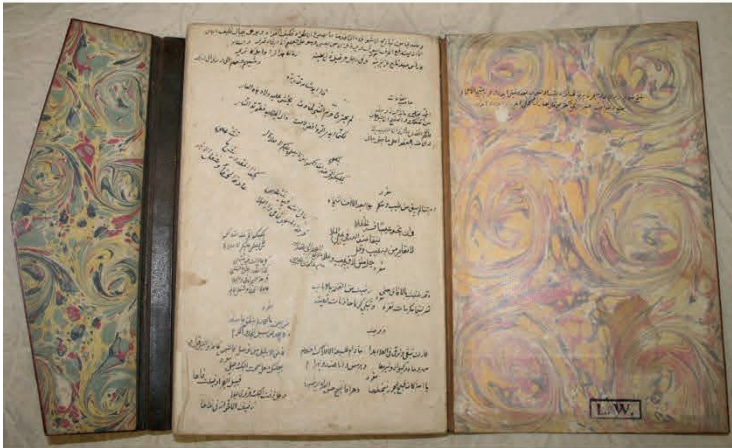


Fig. 95. Or. 442 (1624). Marbled doublures, the leather spine-lining extensions form the inner joints. Different marbled papers were used for the lining of the covers and the envelope flap.



Fig. 96. Or. 18.155. The doublures are made of block-stamped paper.



Fig. 97. Or. 408b. The doublures consist of dyed cloth of tabby weave. The leather inner joint is a repair.



Fig. 98. Or. 61 (1485, Egypt or Syria). Detail of the leather turn-ins of the envelope flap: the leather is adhered over the edges of the cloth.

cloth lining) and the doublure, forming a hinge which reinforces the board attachment. The edges of this strip were sometimes cut in tracery designs for an aesthetic effect.

Apart from the construction of the inner covers, variations are encountered with regard to the decorative aspects of the materials. The leather used for doublures, linings of the fore-edge flap and the inner joint is often a natural brown, or dyed red, dark brown, greyish or greenish, without further ornamentation. A fair segment of this group with full leather doublures demonstrates additional decoration in the form of tooling, blind or gold stamping, and sometimes the application of a painted central ornament or frame-lines in silver or gold paint. [fig. 90] Mamluk bindings with block-stamped leather doublures make up a separate category. [fig. 91] Another distinctive method of decoration is a high quality filigree work. [fig. 92] Somewhat simpler are leather doublures with medallions, made with leather inlay or overlay and gold or blind tooling. [fig. 93] A rather different but small group of manuscripts has leather linings decorated with painted flowers, without tooling or stamping. [fig. 94] The decorative papers can be categorised as *ebru* (marbled) paper [fig. 95], papers dyed in one colour [fig. 88], and papers using other decorative techniques, such as dyed and sprinkled papers, and block-printed or brocade papers. [fig. 96] The effect of ornamentation is in some cases further enhanced by decorative cutwork along the visible edges of the material. [figs. 87, 88 and 91]

Lastly, the description of bindings with cloth doublures needs some extra attention, since their make-up shows an interesting difference from the general work procedure. It appears that cloth doublures were applied before the leather turn-ins were made, which is easily recognised when we examine the inside of the boards. This method contrasts with the usual procedure; the leather turn-ins were made first so the doublure of leather or paper overlaps the turn-ins. The same is true for the application of the leather on the fore-edge flap. Again here, with cloth doublures the leather overlaps the textile, in contrast with the usual application method. As this is done repeatedly and consistently, we must conclude that binders did so intentionally. The rationale behind this working method is quite obvious: to prevent the edges of the fabric from fraying they were secured underneath the leather turn-ins, or the edges of the leather fore-edge lining. [figs. 97, 98]

### 5.5 Page-markers

Some manuscripts are furnished with page-markers. The large majority of the page-markers encountered in the UBL Oriental collection consist of coloured silk thread, laced through the paper margin of the front edge of the pages. Several patterns of lacing and knotting were used, in some of them the thread passed through three holes, in others just one or two. Sometimes the page-markers were made with different colours of thread while others are monochrome. In some manuscripts several different colours were used in the individual page-markers. [figs. 99-101] Their position on the margin varies as well. While they are scattered all over the front margins of some manuscripts, they were positioned more or less in the centre of the fore-edge of others, or alternatively, they were fixed to the paper in descending order from head to tail and front to back. [figs. 102, 103] Some deviations from this common type are encountered, such as paper page-markers either decoratively cut or narrow, plain strips, pasted to the page's edge instead of being laced on. [fig. 104] Another variety consists of leather patches, seemingly cut at random from a blind tooled piece of leather. [fig. 105] Given the function and tight fit of the fore-edge flap, it seems that the page-markers of flexible thread will have been more durable than the extending page-markers made of paper or leather.

Although this particular element is small, it is an interesting characteristic because it indicates which pages were singled out for easy reference. Page-markers were affixed to illuminated or illustrated pages as well as to pages that only contain text. Frequently they appear in composite manuscripts indicating a change of texts. This aspect of usage, as well as

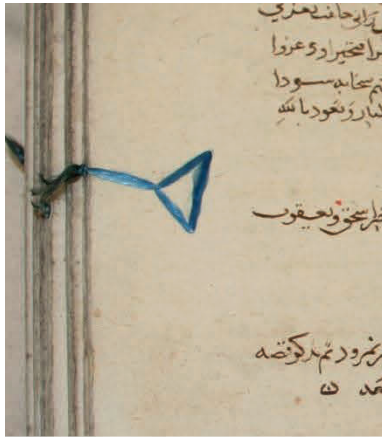


Fig. 99. Or. 2c. A page-marker using three holes forming identical patterns on both sides of the page.



Fig. 100. Or. 134 (1315). A page-marker consisting of three colours of silk going back and forth through three holes in the paper.



Fig. 101. Or. 94c (thirteenth century). A page-marker made with a single loop through one hole in the paper.



Fig. 102. Or. 969 (sixteenth century). The page-markers are unevenly spaced along the front edge.



Fig. 103. Or. 590 (before 1483). The page-markers are all centred in the front margins.

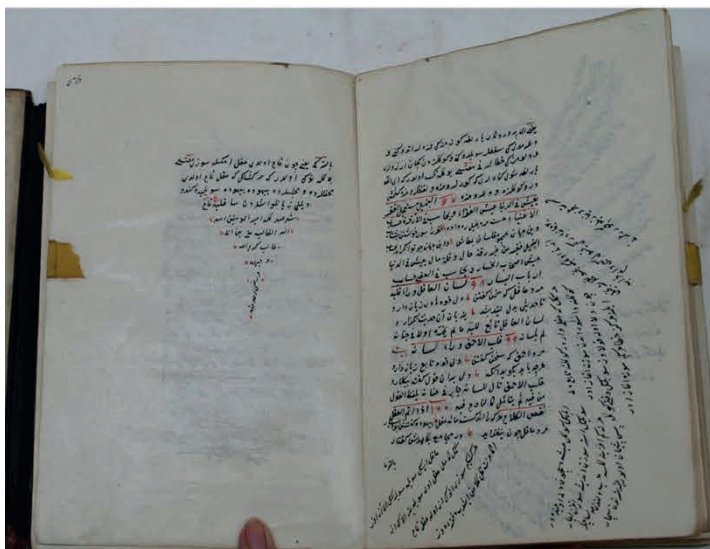


Fig. 104. Or. 961 (1564). A combination of silk and paper page-markers.



Fig. 105. Or. 1902. The page-markers were cut from a tooled piece of leather.

the question of whether page-markers were applied by the binder or the manuscript's owner, will be discussed further in Part Five.

#### 5.6 *Characteristically tabbed spines*

Although most projecting leather tabs are inconspicuous, distinctive varieties can be found. Some bindings have tabs remarkably longer than the average.<sup>66</sup> [fig. 106] The findings from an examination of a particular collection of eighteenth- and nineteenth-century manuscripts from Xinjiang suggested that a specific method of tab decoration, namely the cutting of the tab so as to create a fringed tab, points to Xinjiang origin.<sup>67</sup> [fig. 107] Very occasionally an anomaly is encountered that is not easily explained or categorised. Among these exceptions are tabs that appear to be connected with the secondary endband sewing and tabs that are tied with a vertical thread around the spine.

#### 5.7 *Endband characteristics*

Endbands on Islamic manuscripts are one of the typical binding elements. The system in which a primary endband is sewn over a core, before a mainly decorative secondary endband is sewn, remained the same throughout the manuscript period. Nevertheless, differences occurred in small details in endband manufacture. The best known are some variations in the secondary sewing.<sup>68</sup> Throughout the whole period the predominant pattern is a chevron, made with two colours of thread but only one needle (see fig. 52). Passing underneath every single or bundle of tiedowns, the needle attaches one of the threads and leads the other thread along. The secondary endband threads were either attached inside one of the outer gatherings, or the knot with which they were secured is found on the outside of the spine-lining. The weaving started close to the edge of the textblock, and the sewing pattern was worked towards the spine.<sup>69</sup>

Slightly different patterns occurred when the sewing threads were crossed differently and changed direction in the subsequent row, or when the threads changed direction and swapped the leading role, using a second needle. This method of sewing would result in a vertically striped or diagonally striped pattern. [figs. 108-110] Alternatively, the endband could be sewn with a chevron, but with a change in colour every two rows, in which case the chevron obtained a kind of chequered pattern. [fig. 111] The chevron pattern itself varied depending on the number of tiedowns the needle passed under. The passage underneath one or two tiedowns resulted in a compact pattern. When three, four or even five tiedowns were bundled together, a more elongated chevron was made. Occasionally the chevron was executed with three colours of thread, in which case three needles were necessary. [fig. 112] The appearance of endbands was of course further determined by the type of thread, which could be delicate or coarse, a shining silk or dull cotton.

<sup>66</sup> The tabs of Central Asian bindings are often remarkably long. Oleg Akimushkin suggested that the tabs in this particular region were used to pull the manuscripts from the shelves "out of a pile". O. Akimushkin, 'Central Asian manuscripts' bindings (1730s-1930s)' (2001), p. 4. Frequent use would have caused severe damage to the spine-ends if such handling would have been common, the specimens kept in the UBL do not bear witness of that. The fact that most book titles are written on the tail edge, indicating the book's position on the shelf, also contradicts the theory.

<sup>67</sup> K. Scheper and A. Vrolijk, 'Made in China' (2011), pp. 58-59.

<sup>68</sup> Some of the possible varieties are mentioned explicitly in the treatise of Bakr al-Ishbili and hinted at without details by Ibn Abi Hamidah. See A. Gacek, 'Arabic bookmaking and terminology as portrayed by Bakr al-Ishbili' (1990-1991), p. 109 and 'Ibn Abi Hamidah's didactic poem for bookbinders' (1992), p. 42. Variations are also mentioned by B. Fischer, 'Sewing and endband in the Islamic technique of binding' (1986), p. 198, and N. Baydar, 'Structural features and conservation problems of Turkish manuscripts and suggestions for solutions' (2002), p. 7.

<sup>69</sup> For a schematic drawing and images of mock-up endbands, see B. Fischer, 'Sewing and endband in the Islamic technique of binding' (1986), pp. 191, 196-197; see also *Les tranchefiles brodées* (1989), pp. 87-89.



Fig. 106. Or. 26.684 (1871). A manuscript from Central Asia with a full leather binding and very long tabs.



Fig. 107. Or. 26.663 (1825, Yarkand). A manuscript from Xinjiang with a characteristic fringed tab.



Fig. 108. Or. 6633. Secondary endband in a striped pattern, without the alternating thread direction which is characteristic for chevron.



Fig. 109. Or. 2072 (1404). Secondary endband in a diagonal striped pattern. Both colours of thread pass underneath the tiedowns, alternating in every changing row.



Fig. 110. Or. 196 (fifteenth century). A diagonal striped secondary endband sewing in which the changing of threads at the turn of each sewing tour is visible; at the front joint, the blue thread 'takes over', while at the back joint the red thread makes the loop and continues to take up the blue thread.



Fig. 111. Or. 241 (North Africa, fifteenth century). The pattern of the secondary endband is a chevron, however, it diverges from the dominant chevron as every pair of sewing tours alternate, which results in a 'chessboard'-like pattern.

More remarkable deviations are found in Southeast Asian manuscripts.<sup>70</sup> While the endband core nearly always consisted of a leather strip in the rest of the Islamic world, Southeast Asian binders used strips of textile, cords of silk or flax or a thin solid material strongly resembling thin bamboo strips. As a further divergence, textile cores often projected from the sides of the endband and extended over the joint, forming tufts. Thus, the endband core seemed to have gained a new, decorative function. [figs. 113, 114] However, close examination of the tufts is necessary, for there are also examples of endbands with tufts that are part of the secondary endband sewing and not of the core. [fig. 112] Another variety is formed by endbands which, after the weaving, were wrapped around their base with one of the endband threads. [fig. 115] Tying the thread around the finished endband perhaps had the function to prevent the secondary weaving from sliding off the tiedowns in the spine's direction.

During the survey several manuscripts were encountered with a groove in the head and tail edge of the textblock, parallel to the spine and just along the edge of the endband. This groove appeared to be connected to a diverging endbanding method, although the construction of the primary and secondary sewing followed the traditional procedure. [fig. 116] The grooves, more or less one millimetre wide and two millimetres deep, were probably saw-cut or possibly made with a knife.<sup>71</sup> In this small channel a relatively thick thread passes from front to back of the textblock. In some of the manuscripts this thread was tied to the spine, in others it makes a full loop through the textblock, which was stabbed close to the spine for this purpose, about two centimetres from the head or tail edge. On a number of occasions this thread was applied after the cloth lining was adhered onto the spine, in which case it pulls the lining away from the joint at the stabbed position and as a consequence it interferes with the flanges' function of board attachment. The primary endband sewing was carried out in the usual manner after this thread was tied around the edge and through the stabbed hole. The presence of the recessed horizontal thread must have hindered this process, as it tied the gatherings together close to the spine, thus obscuring the centres of the gatherings. As a result many of the tiedowns in this endband type are not sewn through the centre of each gathering. The making of a model confirmed this complication and the application of the tiedowns turned out quite irregular. Manuscripts with this diverging endband type were supplied with the usual secondary endband sewing consisting of two colours of thread and a chevron pattern, except for one anomaly in which case a thin strip of twisted red cloth was used instead of thread, combined with a normal unbleached thread.

A practical reason for the execution of this endband was probably the wish to solve the sliding of the secondary endband sewing, as I can think of no other reason to go through the elaborate process of making the cut in the edges and stabbing a full textblock while diminishing the flexibility of the structure. In comparison, the method of tying one of the sewing threads horizontally around the finished endbands appears to be a simpler and more adequate procedure with a similar purpose.

A few anomalies were found as well, endbands made according to the basic principle – a primary and secondary endband – but sole examples of a certain sewing pattern. [fig. 117]

## 6 Meaning and validity of the diversity

The examination of the Islamic manuscript collection in the UBL yielded a lot of information. Minor as well as major differences in technique were recorded and a variety of materials were observed. For example, apart from the predominant link-stitch sewing on two stations, more

<sup>70</sup> See Part Five, paragraph 3 and 9, for more information and data.

<sup>71</sup> This groove is quite distinctive from the fine cut that can sometimes be observed in head and tail edges, caused by cutting the leather tab, folded over the endband, in situ.



Fig. 112. Or. 2098 (Southeast Asia). Three colours were used to make this endband, and the frills on the edges are formed with the secondary endband threads.



Fig. 113. Or. 2116 (1853, Southeast Asia). The endband cores consist of several strips of decorated textile, the ends protrude in a decorative fashion.

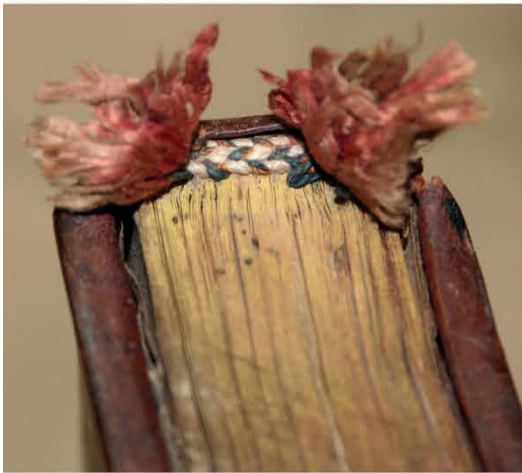


Fig. 114. Or. 1886 (before 1825, Southeast Asia). The core of the endband consists of silk thread and the extending ends were frilled.



Fig. 115. Or. 2064 (possibly Aceh). The secondary endband is sewn with three colours in a chevron, and after finishing it, one of the threads was tied around the total endband structure.



Fig. 116. Or. 6329 (1902). Along the left side of the endband the saw-cut in the edge of the textblock is just visible. The secondary endband is sewn with undyed thread and a red strip of cloth.



Fig. 117. Or. 22.784 (1913, Indian subcontinent). An endband in which the thread direction changes within one and the same sewing tour.

elaborate link-stitch techniques were found. From the literature we already knew that stabbed sewing structures occurred in some parts of the Islamic world, but now it appears that other sewing techniques using sewing supports also belong to the Islamic manuscript tradition. With regard to technique, the crucial function of the spine-lining has become apparent. Equally important, the practical and technical aspects of the two-pieces of leather covering actually direct us to a revised view on the manufacture of the whole construction. However, the two-pieces technique for full leather bindings is common but not universal, so the question arises when one technique was preferred over the other. In addition, while the two-pieces technique seems to be an impractical method for making *çaharkuşe* bindings, yet it is occasionally found on them. Other anomalies were also encountered, such as spine-linings that were applied without using the opportunity to strengthen the board attachment and endbands that involved a stabbed technique which rendered the functioning of the manuscript more difficult.

This diversity, both in techniques and materials used, shows a much richer bookbinding tradition than the Islamic culture has been credited with so far. How the various methods were disseminated, however, remains speculative unless data is provided concerning the origin of these items. A quantification of the varieties in structure and materials is therefore needed, as well as a linkage with the origin and dating of the manuscripts. In Part Four and Five such information is supplied and examined. This will allow for a better understanding of the development of the tradition, with regard to the occurrence of different techniques in time, and their geographical and cultural distribution. However, one of the original questions remains: is the Oriental manuscript collection in Leiden in fact representative of the Islamic manuscript tradition as a whole? To answer that question, the relevance of the encountered variations presented above needs to be more firmly established. Analysis of both the primary and secondary literature on bookbinding techniques sheds more light on the validity of the findings. This is done in the next Part, which provides an overview of the binding procedures as presented in the historic sources and in all relevant research published since. Additionally, the structures and methods described in the literature will be compared with the binding characteristics as presented above. From this comparison it will become clear whether the methods and characteristics described here are incongruous or do, indeed, correspond with what has been recorded in primary and secondary sources. As we will see, some of the anomalies and remarkable divergences described above *do* emerge in the literature analysis. This is of particular interest; even though the origin of these techniques or materials is often not explained or even mentioned explicitly, the fact that they are in some way referred to does substantiate the theory that such characteristics are part of the Islamic manuscript tradition. Ultimately, their description proves that these divergences were encountered not only in the UBL collections but elsewhere as well. Thus, the historic sources and the information revealed in later studies support and validate the findings of the present research.

