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**The Islamic Bookbinding Tradition. A Book Archaeological Study**  
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So far, the quantitative overview of the survey results has outlined the diversity of materials and techniques used to make books in the Islamic world. Already the UBL collections inform us that the diversity is significant. Now, when we focus on only those manuscripts that have retained their original binding *and* whose origin is known, certain trends can be recognised, and tentative or even firm conclusions can be drawn that gradually paint us an image of the development of the Islamic bookbinding tradition. These specific manuscripts provide building blocks for the codicological framework. From the changes in the use of materials and methods in this 'elite' selection, we can see patterns occurring and start exploring the reasons behind these transitions.

## 1      Sewing

### 1.1      *The ratio of the different sewing structures*

As stated before, not much is known about the sewing schemes in the first centuries of the Islamic tradition, and no examples from this period can be found in the UBL. However, since the development of the so-called Type Two binding, it is clear that the predominant sewing structure consists of a link-stitch on two stations; the first chart illustrates the ratio of the different sewing structures in general, without being corrected for repair sewings. [chart 1]

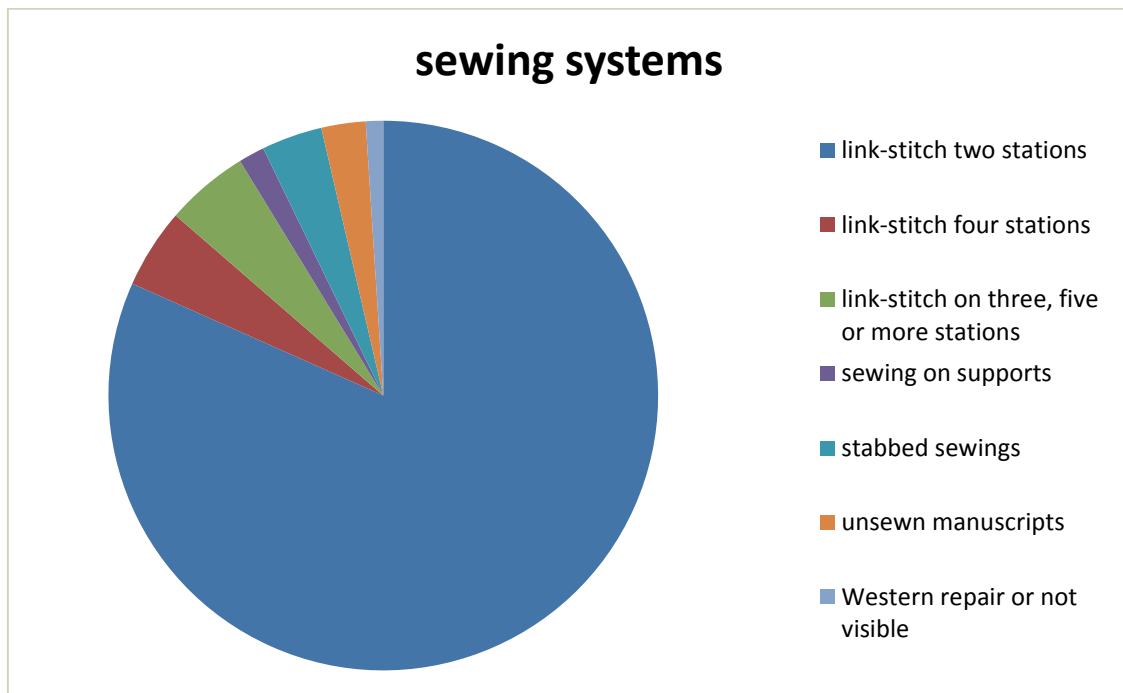


Chart 1. Subdivision of sewing structures in the whole corpus of the Arabic collection, 1056 manuscripts.

When undated and re sewn volumes are deselected from the survey results and the remaining data is divided according to sewing structure, and then arranged by date of occurrence, it becomes clear that the link-stitch sewing on two stations is predominant throughout the

centuries.<sup>1</sup> [chart 2] This chart also illustrates the gradual introduction of an important variation on the unsupported link-stitch sewing, the specific version on four stations. In addition, it demonstrates the relatively high number of variant sewing structures in the eighteenth and nineteenth centuries, and the fact that the unsewn textblocks with connective strips were almost solely used in the nineteenth century. The twentieth century shows a continuous use of the dominant link-stitch, as well as the variety in techniques, though the number of stabbed manuscripts has increased.

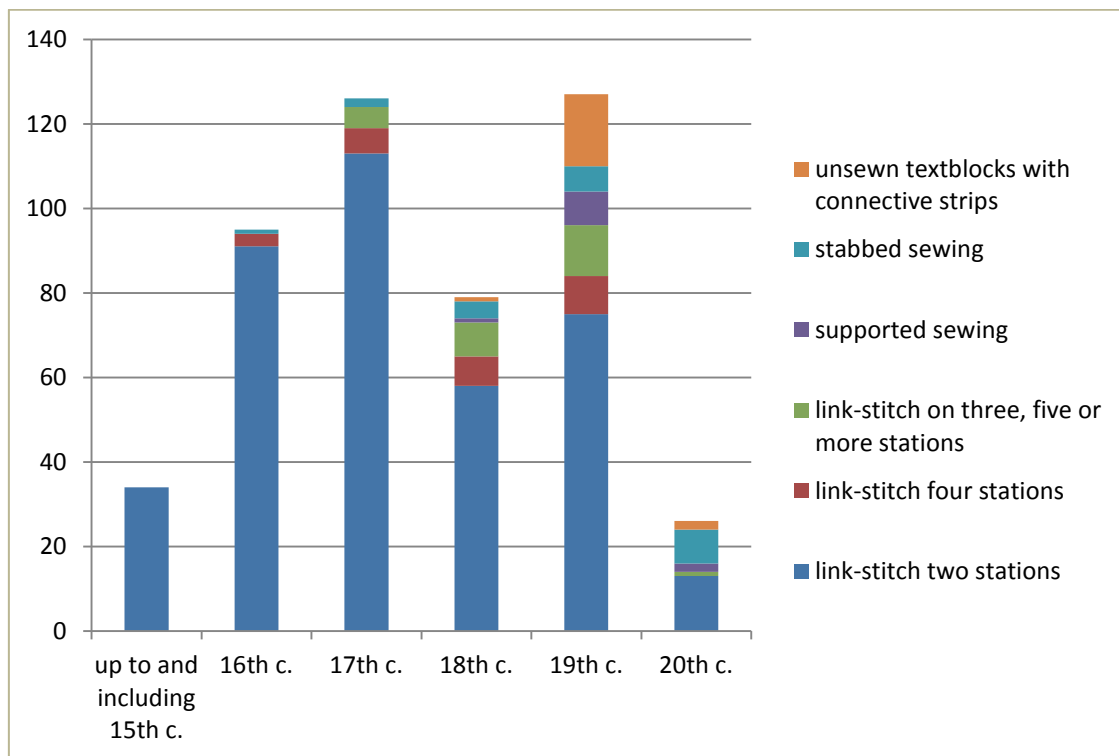


Chart 2. Occurrence of the different sewing structures as used throughout the centuries, with exclusion of the resewn and undated manuscripts.

As explained in Part Four, the information on places of origin is more limited than data on dates, which hinders the ascription of sewing structures to regions. It is clear, however, that the link-stitch sewing on two stations is predominant in most regions of the Islamic world, though it seems to have less relevance in certain parts of North and West Africa.<sup>2</sup> Remarkably, in Southeast Asia this sewing scheme was not found at all. [chart 3]

<sup>1</sup> In Part One the history of the Oriental collection was outlined, and there it was explained that few acquisitions were added during the eighteenth century. Even though in the nineteenth century, and especially in the twentieth century the collections increased significantly, the effect of the 'quiet eighteenth century' is visible throughout the results.

<sup>2</sup> In the UBL collections, the majority of the manuscripts explicitly described as having a North African origin are Berber manuscripts which were stabbed. These manuscripts are often nineteenth-century volumes and the overview of the Maghribi sewing structures is therefore probably not representative of the actual production of the manuscript structures from that region. Of course, the link-stitch sewing is hardly found in sub-Saharan Africa where the manuscripts largely consist of loose leaves and are kept in wrapper bindings and pouches or bags.

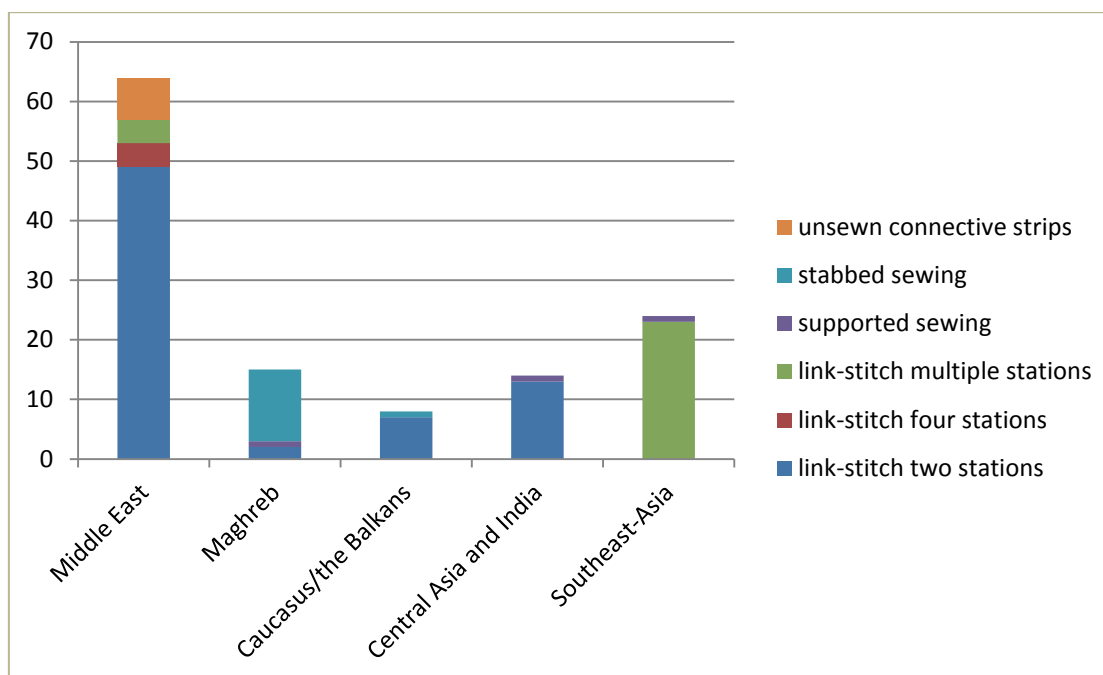


Chart 3. The occurrence of the diverse sewing structures in the Islamic world, according to the localised manuscripts in the survey selection, with the exclusion of resewn volumes.

### 1.2 *The traditional link-stitch sewing with sewn-on leather doublures*

Two volumes, Or. 241 and Or. 1313, were sewn with the link-stitch on two stations, yet they are described separately since their sewing structures include a piece or two pieces of leather, as long as the spine and as wide as the covers. After sewing and binding, these pieces of leather were used to cover the inside of the binding [figs. 138, 142-143], but they clearly also have a significant function in the construction. The outer gatherings of both manuscripts have six sewing stations, and when these first and last gatherings were sewn, the thread passes through the leather lining several times. In Or. 241, the smaller of the two volumes, this diverging sewing structure was only used in the outer gatherings and all other gatherings were sewn with the common link-stitch. In Or. 1313, however, we find that the second gathering is sewn on four stations, and this gathering seems to function as a stepping-link between the outer gatherings and the rest of the textblock. [figs. 139-141] Both textblocks are connected to the leather lining with these diverging sewing tours only, the other gatherings are regularly sewn on two stations and the leather lining is not incorporated into their sewing.

The structures bear a strong resemblance to the al-Andalus structure, differing only in the material that was used for the lining: leather, instead of cloth.<sup>3</sup> Unfortunately, the manuscripts are undated and a colophon in which a precise place of origin could be mentioned is lacking in both volumes. However, Or. 241, a fragment of the Qur'an, written in a large Maghribi script, is described in Theodor Nöldeke's *Geschichte der Qorâns*, which suggested a North African origin and dated the volume fifteenth century.<sup>4</sup> Or. 1313 is the fourth volume of a set, the commentary on Mālikī Islamic law by Abu al-Hasan al-Saghir, which makes it possible to date the volume after 1155. The second volume of the same set is kept in the Bibliothèque Nationale, BNF 1054, which, according to Baron de Slane is dated thirteenth

<sup>3</sup> T. Espejo, and A. Beny, 'Book I from the collection of Arabic manuscripts from the Historical Archives of the Province of Málaga: an example of al-Andalus binding' (2009), pp. 121-133.

<sup>4</sup> Th. Nöldeke, *Geschichte der Qorâns* (1860), p. 348. The date is further supported by a *waqf* (bequest statement) dated 911AH (1505CE).



Fig. 138. Or. 241 (r) and Or. 1313 (l). The two leather bindings show a certain likeness in the decoration scheme.



Fig. 139. Or. 1313. The first gathering is sewn on six stations and passes through the piece of leather used for lining the textblock spine, which also covers the inside of the boards. A primary endband was sewn as well.



Fig. 140. Or. 1313. The second gathering is sewn on four stations, and it seems the next gathering is sewn simultaneously.



Fig. 141. Or. 1313. The sewing thread in the third gathering; its stations are positioned in accordance with the inner stations of the previous gathering.



Fig. 142. Or. 1313. Although a few leaves are missing, the sewing thread and multiple stations, also piercing the leather, are visible.



Fig. 143. Or. 241 (r) and Or. 1313 (l). The leather, secured with the sewing thread, was used to cover the inside of the binding. The edges of the covering leather were turned-in over these doublures.

century.<sup>5</sup> He also described the manuscript as “Maure-Espagnole”. Or. 1313 is written on Islamic paper, but Or. 241 is copied on Western paper which provides a watermark. It consists of a hand or glove, topped by a star-like shape; papers with this watermark were made in Spain from the second quarter of the fourteenth century onwards.<sup>6</sup>

Both bindings are full leather bindings made in one piece, and in both cases the turn-ins of the covering were pasted over the leather doublures, which are in fact the paste-downs from the sewn-on spine-lining. It is noteworthy that the turn-ins cover the doublure, as it is similar to the technique used with cloth doublures, and is not found with any of the other leather doublures in the UBL collection (which are always applied after the turn-ins were made). The leather bindings are blind tooled with small tools and their designs are comparable. The leather doublures are not decorated. Or. 241 seems to have no boards, the covers of Or. 1313 were strengthened with laminated waste paper sheets and are relatively flexible. This later also has a flap, while Or. 241 has none, although the fore-edge turn-in of the back cover appears to be meddled with which may indicate a later interference and could point at the former presence of a flap. Both manuscripts have common primary endbands, though the endband cores of Or. 241 consist of parchment. The secondary endband sewing of Or. 1313 is diagonally striped.

As we lack concrete information on the origin of these manuscripts and their bindings, their position in the al-Andalus binding tradition is uncertain. Was this type of construction, which included a lining-doublure in the sewing structure, developed in the Maghreb or in Al-Andalus? Were both leather and cloth used for this purpose in al-Andalus, although leather was not found by Espejo and Beny? Or does the use of leather bear a stronger relation to bookbinding in North Africa? The sewn lining-doublure structure of these two manuscripts concur with the description in the thirteenth-century Maghribi treatise of al-Ishbili, see Part Three, paragraph 1.3. Did then the al-Andalus variation of using cloth in this sewing structure evolve from that structure, which may have developed in the Maghreb in the thirteenth century? At this point, the development of this specific structure remains tentative, and the two manuscripts may also have been made in the Iberian Peninsula; it is not unlikely that al-Andalus bindings were transported to the Maghreb.

### 1.3 *Traditional link-stitch sewing on more than two stations*

The variant link-stitch sewing that is closest related to the predominant sewing technique on two stations is the link-stitch using four stations in which the sewing thread does not pass continuously in the spine-fold; the technique was described and illustrated in Part Two, paragraph 2.1.<sup>7</sup> The technique was used for resewing damaged manuscripts, but also as a first sewing structure in new manuscripts. As an original structure, it is found with certainty in manuscripts with an established Ottoman provenance; other items lack clear information in their colophons.

In and of itself, a link-stitch sewing on four stations was not a new invention. We know of such sewing systems from Coptic and Ethiopic traditions, and it can also be found on Syriac and Byzantine manuscripts. All these traditions seem to have their own particular

<sup>5</sup> M. de Slane, *Catalogue des manuscrits Arabes* (1883-1895), p. 131.

<sup>6</sup> O. Valls I Subirà, *Paper and watermarks in Catalonia* (1970), p. 404. After describing the wide use of the sign of the hand or glove in later centuries and in various countries, Valls I Subirà states: “Returning to the fourteenth century we find hands topped by a flower or star, used over a long period, and – during the fifteenth century – with letters in addition”. The watermark in Or. 241 has no letters accompanying the watermark. This particular watermark type was not found in early Italian papers of Fabriano, see J. E. Labarre et al., *Zonghi’s watermarks. Monumenta chartæ papyraceæ historiam illustrantia* 3 (1953).

<sup>7</sup> This paragraph also explains the significant technical difference between this particular link-stitch sewing, and the link-stitch using multiple sewing stations in which the thread remains inside the fold-line of the gathering. With the latter, usually three, five or more stations were used, although a few specimens with four stations were encountered.

method, which includes a specific method of board attachment, which makes it possible to distinguish between them; the structures can actually be used to determine the manuscript's cultural origin. The Coptic structure, sewn with one needle, consists of a continuous thread in the spine-fold of the gatherings while the sewing thread forms regular chains on the spines of the textblock; the Syriac book attests a similar method of sewing, though other material characteristics make it possible to distinguish them from Coptic structures. The Ethiopic manuscript is sewn instead with two sets of threads and needles: one thread only moves between sewing stations one and two, the other between three and four. The Byzantine structure can be distinguished because the textblock is often sewn in two halves, both starting with attaching the sewing thread to the boards; the halves then connect in the middle of the textblock spine.<sup>8</sup> Additionally, in all these traditions the sewing thread is also used to connect the boards to the textblock, which is uncommon in the Islamic tradition.<sup>9</sup>

What is particularly distinctive for the Islamic sewing on four stations is the passing of sewing thread between the second and third station on the spine side of the textblock. This follows from the sewing scheme: when the thread exits from the second station, it does link with the sewing thread from the previous gathering but it does not return into the same station, as is common in Coptic, Ethiopic, and Byzantine structures. Instead, the thread loops around the sewing thread from the previous gathering passing over the spine, and it enters at the third sewing station, to continue unto the fourth station, thus forming the second stitch inside the spine-fold. When the thread exits again at the fourth station, it makes a loop around the previous link-stitch on the spine and then continues on to the next gathering to be sewn. Of course, when a binding is undamaged the threads on the spine-side of the textblock are not visible, but the difference between a link-stitch on two and on four stations is clearly visible inside the gatherings, as is the difference between this specific sewing scheme and Coptic or Byzantine structures.

The discovery that the Islamic tradition has its own particular sewing scheme (the link-stitch on four stations), apart from the link-stitch sewing on two stations, that distinguishes it from neighbouring bookbinding traditions, is a result in itself. It can be assumed that Islamic binders knew of these variant sewing schemes used in other cultures, perhaps even used them as a starting point to develop their own technique. Why and how exactly this development took place is as yet uncertain. Nevertheless, this distinctive Islamic sewing scheme is of course useful in building a codicological framework. Accordingly, awareness of this phenomenon concerns conservation specialists.<sup>10</sup> But how can the survey findings help us understand the rationale for its usage?

Initially, this particular sewing scheme seems to represent a repair practice, as the oldest examples are found in re-sewn manuscripts from the twelfth to the fifteenth century. In some of these manuscripts the paper in the spine-fold was repaired with small patches of paper, evidence of the earlier sewing, in other instances former holes can be found underneath the current sewing thread. Either way, the binder decided to use a sewing pattern

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<sup>8</sup> I have made this comparison before in a paper I presented at the *International meeting of bookbinding* in Istanbul (November 2012). Technicalities on the Coptic, Ethiopic and Byzantine structures can be found in J. Szirmai, *The archaeology of medieval bookbinding* (1999).

<sup>9</sup> In part of the early Coptic codices leather thongs were applied for board attachment, instead of using the sewing thread, which does not affect the observation that the Islamic tradition stands out in terms of sewing and board attachment.

<sup>10</sup> For this specific audience, I elaborated on the unfavourable consequences of conservation techniques which alter the sewing structure at two conferences: the 14<sup>th</sup> *Symposium on care and conservation of manuscripts* in Copenhagen (October 2012) and the *International meeting of bookbinding* in Istanbul (November 2012). See: 'Neither weak nor simple. Adjusting our perception of Islamic manuscript structures' (2014), pp. 253-269, and 'Preserving the Islamic manuscript as an artefact. Some object characteristics and treatment considerations' (2014), pp. 98-104.

that would by-pass the weakened part in the paper spine-fold. Obviously, this resulted in a stronger and more durable structure.

The first occurrence of manuscripts originally sewn on four stations dates from the middle of the sixteenth century.<sup>11</sup> Not every volume displays characteristics that can help explain the use of the diverging sewing schedule: they may have an average format, thickness and gathering structure, and a normal textblock substrate not justifying a change in sewing structure. In those cases, it seems the structure was chosen for no other reason than that the binder preferred it as a superior sewing over the link-stitch on two stations. Two of these specimens have dyed textblock edges, with vegetal patterns painted in gold, suggesting that indeed these items were made with much care.

However, when an entire manuscript consists of only two or three gatherings, it is evident that the method is used intentionally, for technical reasons. Several thin volumes have their few gatherings sewn on four stations, while two specimens – Or. 2190 and Or. 1676C, both consisting of two gatherings – were sewn on three stations. [fig. 144] As the outer stations are placed relatively close to head and tail, this results in a fairly stable structure. In most of these thin manuscripts the outer sewing stations take over the function of the primary warp stitches, and in these instances the items have no endbands. They were too thin anyway to allow for a proper endband, and so this sewing structure is a functional alternative for the predominant one.

Another good reason for using the link-stitch on four stations is found with nineteenth-century volumes, written on flimsy machine made paper, such as Or. 11.058. [fig. 145] It seems that they were intentionally sewn on four stations, as the doubled number of stations would have lessened the risk of tearing, both during the act of sewing as well as later when the manuscripts were used. These volumes were further strengthened with traditional endband structures, which affirms their careful manufacture. However, apart from being a replacement sewing method and one used for particular fragile manuscripts, eventually the technique using four sewing stations may have evolved into an economical method for the production of volumes with multiple gathering volumes as well. Three manuscripts, Or. 6.632A-C, dated 1859 and purchased in Yemen, appeared to have a very irregular primary endband sewing, with the tiedowns applied rather sparingly. In these volumes, the sewing on four stations makes sense as the outer positions supply strength to compensate for the omission of tiedowns. In one other example, Or. 14.098, dated 1790, the outer stations are also located relatively close to head and tail, so that the primary endband sewing could be omitted altogether, which is real economising.

Three manuscripts display the use of the same sewing scheme except that six stations were used; the thread between the second and third, and between the fourth and fifth station passes over the spine side of the textblock. Or. 2761 is an interesting example of this technique, since it is an elongated manuscript, measuring 31 by 11 centimetres. [fig. 146] As such, it corroborates the theory of the intentional use of multiple stations for larger manuscripts.<sup>12</sup> On the other hand, Or. 14.515 is sewn on six stations in the same manner although it has a regular format. The last example, Or. 11.121, consists of one gathering only, which explains the absence of an endband and the use again of sewing stations close to head and tail instead. In addition to the evident material differences between these three items, there is no coherency in their origin as they date from 1655 (copied in Palestine), 1749 (place unknown), and 1873 (copied in Iraq).

<sup>11</sup> These original examples are of particular interest. Raby and Tanındı mentioned the link-stitch on four stations in their study on fifteenth-century bindings and explicitly stated that this particular sewing structure was only encountered in “restored bindings”. See J. Raby and Z. Tanındı, *Turkish bookbinding in the 15<sup>th</sup> century* (1993), pp. 215–216; and further in Part Three, paragraph 5.1. The oldest examples are Or. 5 and Or. 945, dated 1553 and 1566 respectively.

<sup>12</sup> See for the historical source on this method Y. Porter, *Peinture et arts du livre. Essai sur la littérature technique indo-persane* (1992), p. 119.

Unfortunately not all examples were dated, and the lack of sufficient data on the origin of manuscripts for which this diverging link-stitch was used hinders the identification of the chronological development of the technique's utilisation. Based on the current findings, the sewing scheme on four stations seems to have started out as a repair technique, but then proved useful enough so that binders started applying it as an original sewing structure in their regular binding practice.<sup>13</sup>

#### 1.4 *A diverging link-stitch sewing on three or more stations*

Though belonging to the family of unsupported sewing, the link-stitch sewing on three or more positions with the thread passing continuously in the spine-fold forms a distinctive sewing method. Obviously, it comprises at least one additional sewing station – compared to the predominant sewing scheme – and therefore provides extra stability to the sewn textblock. This type of sewing seems to be directly related to the Coptic sewing system.

Of the 42 specimens using this sewing structure, only three were made in the Middle East. Each of these volumes was sewn on three stations. They appear to belong to an identifiable category, because the manuscripts contain Christian texts (the Four Gospels, *Imitatio Christi* by Thomas a Kempis, and a composite volume comprising of a dispute between a monk and a Muslim and a sermon by St. John Chrysostom), and two of them can be located: they were copied in Aleppo and Tripoli in Syria.<sup>14</sup> The origin of the third one is unknown, but the laminated paper boards consist of wastepaper containing text in Syriac script.<sup>15</sup> With this information all three manuscripts can be linked to the Arab-Christian community which helps to explain the use of a sewing structure akin to the Coptic – and is associated with the early Christian bookbinding tradition.

From the survey it appeared that all other manuscripts sewn with a link-stitch on multiple stations with a thread continuous in the spine-fold, originate from Southeast Asia. It is, however, difficult to imagine how the Coptic tradition can have influenced the development of the regional specific variety in Southeast Asia, as their geographic and chronologic occurrences are so widely divided. The reconstruction of the spread of the manuscript culture is complicated by the loss of the oldest manuscripts made in the Southeast Asian region. Since the oldest surviving manuscript structure with a multiple link-stitch sewing dates from the seventeenth century, there is a large hiatus in our material evidence. The possibility should not be ruled out that the people of Southeast Asia developed their own sewing technique, grafted onto the traditional Islamic bookbinding methods and certainly designed to reach a similar visual result – a flat, tight spine – but with their own signature. Judging from other remarkable divergences in binding details, it seems a certain urge and creativeness existed to develop an individual style. However, this explanation alone may not be entirely satisfactory. With an increase in the number of stations in the sewing, the time needed for the sewing also increases. Since economical considerations influence a bookbinder's approach, material aspects may have also played a part in these developments. A significant portion of the manuscripts from Southeast Asia is written on dluwang; although the oldest manuscript in the UBL collection from this region, dated from the seventeenth century, is not entirely written on dluwang, its endleaves and lining of the flap consist of

<sup>13</sup> Eryn Kropf noticed the technique while describing material characteristics of the Islamic manuscript collection in the Michigan University Library, see her: 'Historical repair, recycling, and recovering phenomena in the Islamic bindings of the University of Michigan Library: exploring the codicological evidence' (2013), p. 15. She confirmed its usage on quite thin or particularly tall or elongated volumes, often without endbands, and recorded cases where the four stations sewing represented a repair technique (personal e-mail exchange 11-06-2013).

<sup>14</sup> Or. 701 and Or. 2084.

<sup>15</sup> Or. 18.274. The sewing of the latter displays a further characteristic belonging to the Syriac tradition: the linking stitches on the spine connect three rather than two gatherings, thus the sewing thread forms longer loops and the chain has a more compact shape.

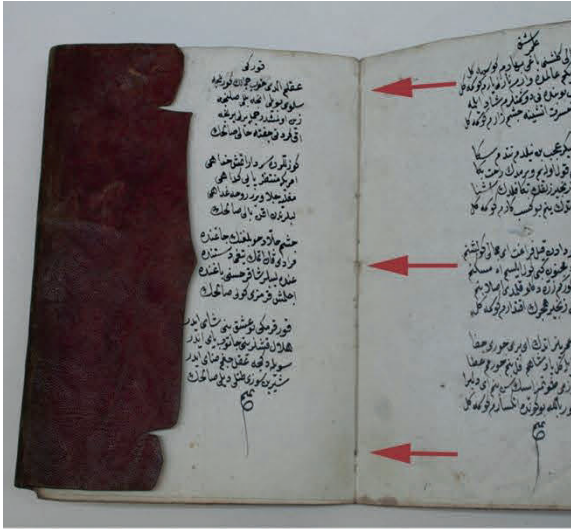


Fig. 144. Or. 1676c (after 1817). An example of a thin textblock, consisting of two gatherings only, sewn on three stations.

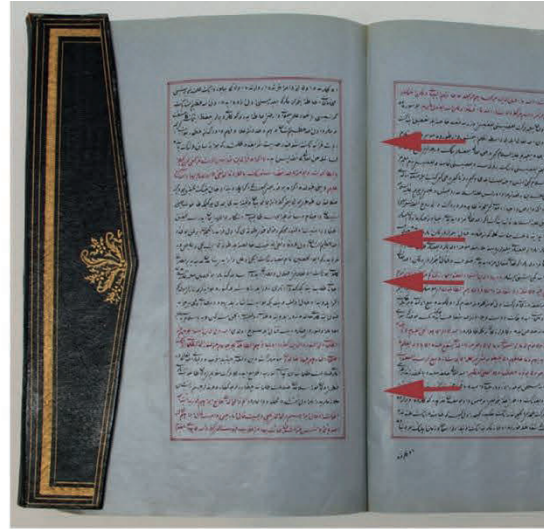


Fig. 145. Or. 11.058. (1863) An example of a textblock consisting of thin machine-made paper, sewn on four stations and provided with endbands.



Fig. 146. Or. 2761 (1655, Palestine). The textblock is sewn on six stations and has traditional endbands.

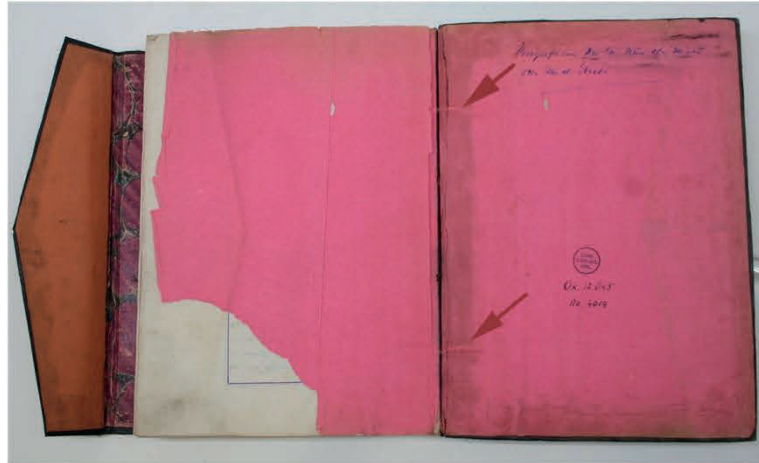


Fig. 147. Or. 12.645 (1888). The textblock is sewn on two cords, the arrows point at where the extending slips were pasted onto the boards.

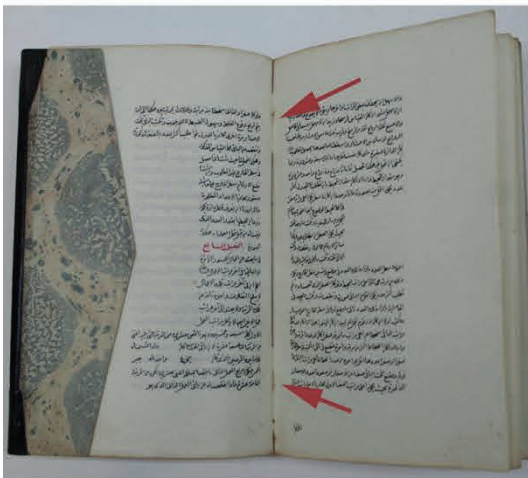


Fig. 148. Or. 25.723 (1788). The tacks are visible between the link-stitch and the endband warps.

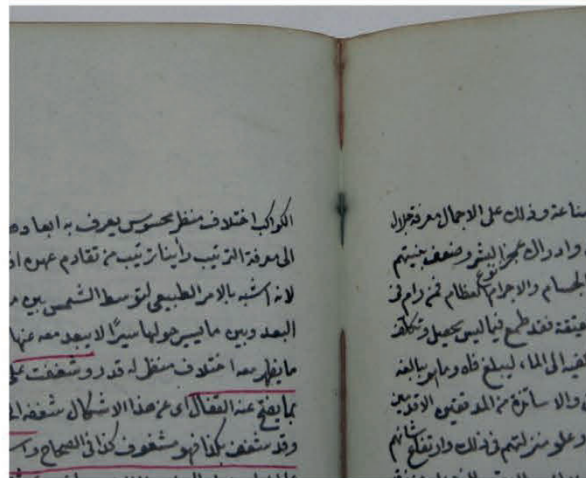


Fig. 149. Or. 25.723 (1788). Detail of one of the tacks.

dluwang which attest the early use of this material. Notwithstanding its flexibility and strength, perhaps the professional binders noticed that the material was more prone to tearing than paper, and as a consequence they may have adapted their sewing system.

Another interesting aspect of the Southeast Asian book tradition is that the craftsmen did not turn to the Chinese tradition for inspiration. Chinese books, consisting of very thin papers, have the fold-line of the bifolios positioned at the front-edge so that only one side of each paper can be written on. This construction dictated the use of the stabbed sewing technique since there were no spine-folds at the spine side to sew. Malay manuscripts in Arabic script clearly are not based on these constructions, nor did the binders borrow the stabbing technique.

### 1.5 *Sewing on supports*

Sixteen manuscripts have an original sewing structure using supports, and within this group two trends are discernible. The volumes were either sewn in Southeast Asia, in which case they were sewn on flat strips, or they originate from the Middle East or North Africa, in which case they were sewn on two cords. All of these Southeast Asian volumes date from the nineteenth century. Sometimes their sewing supports consist of strips of leather but in a few cases the material is not visible and caused no discolouration, so the use of parchment cannot be excluded.<sup>16</sup> Mostly the gatherings were sewn across, which is the more economical method, though twice the thread passes around the supports. The extending slips of the sewing supports were used to strengthen the board attachment; they were pasted onto the inside of the boards. The lack of data on provenance leaves us without information about the origin and development of this structure, which is very different from the regular Southeast Asian link-stitch sewing on multiple stations. It is quite possible that the introduction of supports is related to the arrival of Europeans in the region.

The volumes in the other group, sewn on two cords, are of a relatively recent date as well. The oldest manuscript was copied in 1859 (Or. 11.524), followed by two more nineteenth-century volumes (Or. 12.645 and Or. 11.969), then two manuscripts dated 1902 and 1924 (Or. 22.934 and Or. 23.341). The cords are so thin that they do not appear as ribs on the spine. Two times a saw-cut in the spine-folds was found which allowed for recessed supports. The gatherings have four sewing stations, with the two cords more or less positioned where the two link-stitches normally would have been, and the outer linking stitches closer to head and tail. [fig. 147] The extending slips of the supports were pasted on the inside of the boards, except for one specimen with laced-on boards, which seems to reflect a direct European influence. Two of these volumes display a further Western feature, as the leather on their spines is turned-in, and one specimen has boards which are cut slightly larger than the textblock; otherwise, the outer appearance of these manuscripts accords with the Islamic tradition, including the presence of an envelope flap.<sup>17</sup> It gives these relatively late manuscripts a somewhat hybrid character, similar to that of many Arabic printed books from the same period, as became apparent from a preliminary examination of the UBL printed Oriental collection, which will be elaborated on in the next chapter.

### 1.6 *Stabbed sewings*

The most prominent aspect related to the group of stabbed bindings is the high number of Berber manuscripts. The total corpus contains thirteen Berber manuscripts, and twelve of them are stabbed. In two cases a former link-stitch on two stations can be established, with the other volumes the stabbed sewing seems to be original. Two other originally stabbed

<sup>16</sup> This group of supported sewing structures was illustrated in Part Two, paragraph 2.3 and figs. 45-49.

<sup>17</sup> The technique of sewing on supports may have been borrowed from Western binders; Islamic bookbinders stayed close to their own tradition, as is attested by the overall construction, the application of endbands and covering schemes. In the West, books from this period sewn on thin supports almost exclusively have hollow spines.

manuscripts, in Arabic, also originate from North Africa, and one from Macedonia. Four others were purchased in Yemen and the stabbed sewing technique in these volumes is combined with the deviating saw-cut endband structure, which includes an extra stabbing position near head and tail. In a few cases the textblock spine was lined with cloth prior to the stabbing and the extensions of the cloth were folded in the direction of the textblock; then, when the sewing thread pierces the stack of gatherings it also passes through this cloth. After sewing, the extending sides of the lining were folded backwards in the direction of the boards and pasted onto the inside of the boards, for firmer attachment. Noteworthy is that one of the manuscripts now sewn on two cord supports was formerly stabbed (Or. 23.341). As stabbed textblocks do not open very well, this could indicate that one of the manuscript's owners felt that the stabbed sewing hampered his use of the book. It may also hint at the possible use of stabbed sewing as a temporary means of keeping the textblock together, until it was sold and brought to a binder.

The relative smallness of the group of stabbed textblocks hinders the drawing of conclusions. It is obvious that the sewing technique was a cheap and quick repair technique, but to suggest a theory for its use as an initial sewing method would be premature. Most likely there are several reasons, among which is the tradition in West Africa in which many loose-leaved manuscripts circulate, the possible absence of professional craftsmen in peripheral areas and the economy of labour.

#### 1.7 *Tackets*

Only one manuscript was found with tackets in its separate gatherings, Or. 25.723, dated 1787. This is a composite volume, a collection of texts on astronomy, and of the five texts only the third and the last one have been tacketed.<sup>18</sup> The individual tackets consist of small stitches made with a thread, and each gathering is secured with two tackets, close to head and tail. [figs. 148, 149] It is uncertain whether tackets were mainly used to assist the scribe in his preparations for textblock decoration, the pricking and ruling of the folios, or if they primarily served to keep a gathering together while it was circulated for copying purposes; the use of tackets in Islamic manuscript culture has yet to be studied.<sup>19</sup> What is remarkable in our specimen is that although the text is finished, open spaces indicate that illustrations were planned, but never applied. Were these particular gatherings held together by tackets to allow for distribution to the craftsman who would add the drawings? If so, one wonders why the illustration in this manuscript were never made. In order to verify the occurrence of tackets in Islamic manuscripts and understand their function, it seems logical to first examine illustrated volumes, or, as in the example of Or. 25.723, manuscripts that were intended to be illustrated. A subsequent comparison with items only containing text may then shed light on the usage of tackets in this manner.

#### 1.8 *Unsewn manuscripts*

As previously explained, unsewn manuscripts in wrapper bindings are not to be confused with African manuscripts consisting of single leaves. Instead, they are volumes consisting of proper gatherings, usually made of four or five bifolios; the indication 'unsewn' explicitly points out that these objects *could* have been sewn but were not. At best, the gatherings were held together with connective strips of leather, cloth or paper, pasted on the spine of the textblock. The 28 specimens encountered in the UBL were mostly made in the nineteenth century, the oldest is dated 1739, two are from the very early twentieth century. Only a small number of them are localised: three separate volumes and a set of four originate from Egypt,

<sup>18</sup> A tacket, in this context, is a provisional or temporary sewing stitch, to keep the individual bifolios of a gathering together as long as the textblock was not completed.

<sup>19</sup> See J.P. Gumbert, 'The tacketed quire: an exercise in comparative codicology' (2011), pp. 305-308.

all others are of unknown origin. In this respect it is interesting to quote the Arabist Edward William Lane (1801-1876), who lived in Egypt for many years:<sup>20</sup>

The leaves of the books are seldom sewed together; but they are usually enclosed in a cover bound with leather; and mostly have, also, an outer case (called *zurf*) of pasteboard and leather. Five sheets, or double leaves, are commonly placed together, one within another; composing what is called a *karra's*. The leaves are thus arranged, in small parcels, without being sewed, in order that one book may be of use to a number of persons at the same time; each taking a *karra's*. The books are laid flat, one upon another, and the name is written upon the front of the outer case, or upon the edge of the leaves.<sup>21</sup>

Lane saw this practice in Egypt in the second quarter of the nineteenth century, which corroborates with the period of manufacture of most of the unsewn manuscripts identified during the survey.

The relative age of these objects of course influences the condition of the paper. Some of the unsewn textblocks are rather heavily used, while others are not completely pristine but certainly show no signs of much use. In Part Two, paragraph 2.1, I suggested the theory that this method of keeping the textblocks together could well have been a retailer's fashion; the connective strips pasted onto the spine of the gatherings would have provided just enough coherence for the textblock to be consulted by a potential customer. However, this kind of usage cannot explain the degree of dilapidation of the heaviest damaged items, unless the unsewn manuscript was eventually sold but not taken to a binder by its new owner. On the contrary, this person must have used the volume in its more vulnerable, unsewn condition. Lane's observation provides another possible answer. Russell Jones explains the comment as an indication of the loose separate gatherings being used for studying practices, as several students could use a single manuscript simultaneously.<sup>22</sup> Another possibility would be that the separate gatherings circulated for copying practices. Such practice may explain the rather thumbled condition of some of these volumes. What contradicts these ideas though, is the application of the connective strips. The strips were pasted onto the textblock spine and thus, they are adhered to the outer bifolio of every gathering. This obviously hinders a free distribution of complete individual gatherings. Were the connective strips applied then in a later stage or only in specific situations?

When the manuscripts were checked for quire signatures, they were found in half of the volumes. These signatures support the theory of the loose gatherings being used or circulated separately. With regard to the content, it appears that these texts are rather common or popular texts. Combining these observations, they suggest that these unsewn manuscripts with wrapper bindings were, indeed, bookseller's items. He could store them in the shop in this fashion since the loose gatherings were well protected and presentable. And while waiting for potential buyers, he could perhaps lend the loose gatherings to students or people who wanted to make their own copy of the work, thereby potentially making a little money out of them in another way. Then, when a customer presented himself, the bookseller could make several offers, varying in luxuriousness and cost. Apart from offering a completely new copy, the bookseller could propose to have the gatherings on hand sent to a bookbinder

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<sup>20</sup> The quotation was brought to my attention by Russell Jones, who used it in one of his studies of Malay manuscript structures. See: R. Jones, 'Malay manuscripts: gatherings and soiled pages' (1999), p. 99.

<sup>21</sup> E.W. Lane, *An account of the manners and customs of the modern Egyptians, written in Egypt during the years 1833-1835* (1836), vol. 1, p. 265. The description is illustrated with a pen drawing of books and the implements for writing. The unsewn nature of the book itself is not visible, the drawing represents the book safely stored within its slipcase.

<sup>22</sup> R. Jones, 'Malay manuscripts: gatherings and soiled pages' (1999), p. 100.

to have them properly bound. A more economical option would be for the buyer to purchase the manuscripts in the wrapper binding as presented in the shop. Should the prospective owner chose the latter option, it is possible that the connective strips were added at that moment to provide some connection between the gatherings, probably just enough for the anticipated personal usage of the manuscript.

Other questions concerning this particular type of the manuscript remain. When did the wrapper binding come into use? Where was it first used and is the theory above correct? Equivalents of the type have also been found in the printed collection of the UBL; these have the connective strips and wrapper bindings with a flap quite similar to the unsewn manuscripts, see paragraph 2.4 in the next Part. The occurrence of unsewn printed books with wrapper bindings certainly needs to be looked into further as well.

## 2 Spine-lining

### 2.1 *Material*

We have seen that after sewing, almost all textblock spines were lined with either leather or cloth. Leather linings were the commonest in the earlier centuries. In total, 227 volumes were originally lined with leather of which more than 160 are dated. The vast majority of those were made before 1650. No more than eight manuscripts from the eighteenth century were lined with leather, and there are only two occurrences in the first half of the nineteenth century, the latest in 1821. Cloth linings, on the other hand, have been used throughout the ages. In the centuries up to 1500, textile was used as often as leather. Though the use of leather was dominant in the sixteenth century, during the seventeenth century we see a decline in its use compared with cloth. In the first quarter of that century 25 leather and fourteen cloth linings were counted; from 1626 to 1650 there are thirteen leather and eighteen cloth linings; from 1651-1675 there are only eight leather versus 28 cloth linings; and two versus ten were counted in the last quarter of that century. After that, cloth quite convincingly became the predominant lining material; in the eighteenth century it was used on 58 dated manuscripts (88% of the dated volumes in this period) and in the nineteenth century on 88 dated manuscripts (98% of the dated volumes), with 21 occurrences in the twentieth century when leather was no longer used. [chart 4]

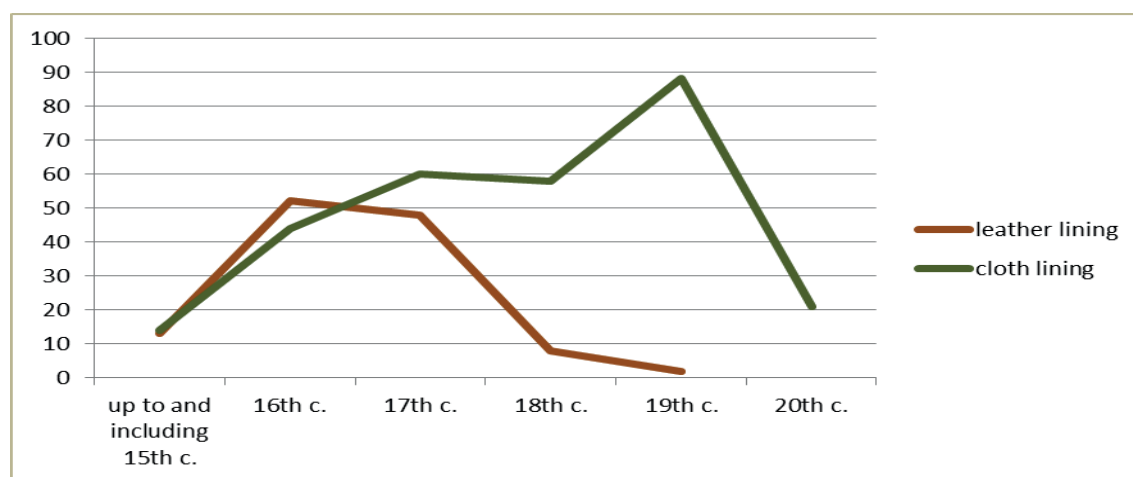


Chart 4. Comparison of the numbers of bindings with leather linings and cloth linings over the centuries, resewn volumes excluded.

## 2.2 *Function*

The primary function of all spine-linings is to offer stability to the sewn textblock, and to provide support for the primary endband sewing. With the majority of the bindings, the lining material was also utilised to strengthen the board attachment. It is only with regard to this second function of the lining that we can find a difference in the use of leather, compared to cloth. When leather was used, the flanges were always pasted onto the inside of the boards, except for a rebound manuscript in which the original leather flanges were cut and a new cloth lining was applied, and one volume (Or. 25.300) dating from the nineteenth century. This was sewn on supports and the leather lining does not extend beyond the sides of the spine, presumably because the support slips – which were pasted onto the inside of the boards to support board attachment – interfered with the application of the flanges. For all the other volumes, the leather inner joints formed by the extended sides of the lining were left visible, almost without exception. In nineteen instances the leather inner joint is covered by a paste-down, a stub from the doublure or a separate inner hinge, but most of these additional inner joint materials seem to have been applied as a repair.

There are some remarkable differences in the way the extending sides of the cloth lining were treated. First, only 77% of the cloth-lined volumes with an original sewing structure display their function as board attachment. Although this may seem a high percentage, the flanges of leather spine-linings were always attached to the boards except for the two instances described above; the difference in the application between the two materials is therefore noteworthy. In the group of the cloth linings, when the extending sides were not pasted onto the boards, then the flanges were pasted onto the outer leaves of the textblock. This composition was found in 59 instances (14%); in seventeen other cases (4%) the extending sides were cut off altogether. It is difficult to establish a trend in this alternative treatment of the lining. In the group with the flanges pasted onto the gutter of the textblock, the variant sewing structures are in line with the general numbers, although no Southeast Asian sewing methods were found. What is remarkable though, within this set, is the high number of bindings made without a flap: 26 of the 59 volumes (44%, more than twice as much as the average). Although only a few of these manuscripts have a clear provenance (four items were copied in Turkey, two in Bukhara, one in Kabul and one in Pakistan), most of the flapless bindings are written in Persian. With regard to date, two manuscripts were copied in the seventeenth century, nine in the eighteenth, seventeen in the nineteenth and two in the twentieth century. This does seem to point at a development over time which may have taken place mainly in Iran, the Indian subcontinent and Central Asia. Technically, the decision to paste the cloth flanges onto the textblock instead of onto the boards was perhaps made to avoid tension on, and eventually damage to the endbands. For it must have been noticed by binders – as they repaired older works – that cloth linings became detached from the textblock spines over time, in which case the endband threads were prone to break or cut the paper, because the leather covering would pull the cloth lining away from the spine.

It is difficult to find a common factor in the relatively small group of manuscripts with cloth linings of which the flanges were cut in the joints (or that perhaps never extended beyond the width of the textblock spine). The technical motivation for this practice is not known; why would binders want to cut part of the material that could otherwise be used to strengthen the construction? It is possible that some of these textblocks previously had a regular construction; if the joints started tearing but the sewing structure remained intact, a binder might have cut away the remnants of the flanges and pasted the intact textblock into a new binding, or a repaired version of its old binding. The inner joints of these bindings were either finished with extra strips of paper or leather, or they were covered with a paste-down. In the group of cloth linings cut along the joint a similar large percentage of flapless bindings is noticeable (47%). The relation to the eastern areas of the Middle East and Central Asia seems less strong, though.

Four times a cloth lining cut on the bias was found; the treads of the fabric are not aligned with the spine but instead, the fabric is cut diagonally to the grain. It is tempting to think that some binders used this method of lining application because it results in stronger joints; the fabric in the joint is less prone to tearing because of the direction of the treads. However, the number of occurrences is very small, and besides there is one instance, Or. 6292, that clearly points at a random application of the cloth. This manuscript was lined, after resewing, with two pieces of cloth; the edges overlap in the middle of the spine. The piece of lining covering the upper half of the spine has its threads aligned in the common horizontal and vertical direction, while the lower piece was applied on the bias. This suggests an economic usage of scraps of cloth rather than an intentional technical motivation.

No lining at all was found on 24 specimens, the unsewn manuscripts not included. Eight of these are thin manuscripts, up to 1.0 centimetre including boards, which explains the absence of the lining, as well as the absence of endbands on six of them. Five others have a stabbed sewing and no endbands or an irregular primary endband, in which case the omission of a spine-lining is not surprising either. The group includes two Malay manuscripts, which were sewn with a link-stitch on multiple stations and do have a leather covered binding with a flap, but the binding and textblock are not structurally connected, nor do they show traces of former attachment. One of these bindings even has the inside of the leather spine covered with the same paper as the doublures. This strongly suggests that the cover was originally made as a wrapper binding.

Finally, there is a remarkable difference between lining types in Southeast Asia and the rest of Islamic world. In Southeast Asia, the linings are multi-layered and often so stiff that the spine-folds of the gatherings are hardly accessible. In certain cases a combination of layers of leather, paper and dluwang was found. The rigid lining seems to have been used primarily to secure the tiedowns and the shape of the book, with only part of the layers used to strengthen the board attachment.

### 3 Endbanding

#### 3.1 *Patterns*

It is evident that the chevron sewing is by far the most frequently used pattern in secondary endband sewing. Usually, the weft thread passes underneath coupled tiedowns; they can be bundled in the twos or threes but alternating patterns such as 1-2-1-2 were also found. Whatever the exact division, the regularity of the sewing patterns demonstrates that binders did not sew the secondary endbands randomly. The only four manuscripts with a different endband at head and tail, either in colour or pattern, may be the result of later repairs, unforeseen circumstances such as running out of the right colour or simply the inexperience of a starting craftsman.

While the predominant endband type is found throughout the centuries and in all regions of the Islamic world, it is quite clear that in Southeast Asia specific variants were developed. [chart 5] They are discernible by several distinctive characteristics, although not all these features are necessarily found in each endband. The first feature is the fringed sides of the endbands, made from either the endband core or the secondary sewing thread. Then the secondary endband thread may be tied around the base of the endband once or twice, after sewing. Thirdly, the endband core often consists of thread or strips of cloth and sometimes of bamboo-like plant material. Finally, the secondary endband may be sewn with three colours. Perhaps equally important is that none of these features was found on manuscripts originating from other regions, therefore, it seems reasonable to conclude they

are part of the Southeast Asian tradition.<sup>23</sup> As such, they represent valuable characteristics in the material framework.

Another noteworthy variant within the group of traditional, chevron-type endbands, is the saw-cut endband. The difference is a technical alteration of the primary sewing but rather stands out, which is why the type is elaborated further in paragraph 3.2 and 3.4 below.

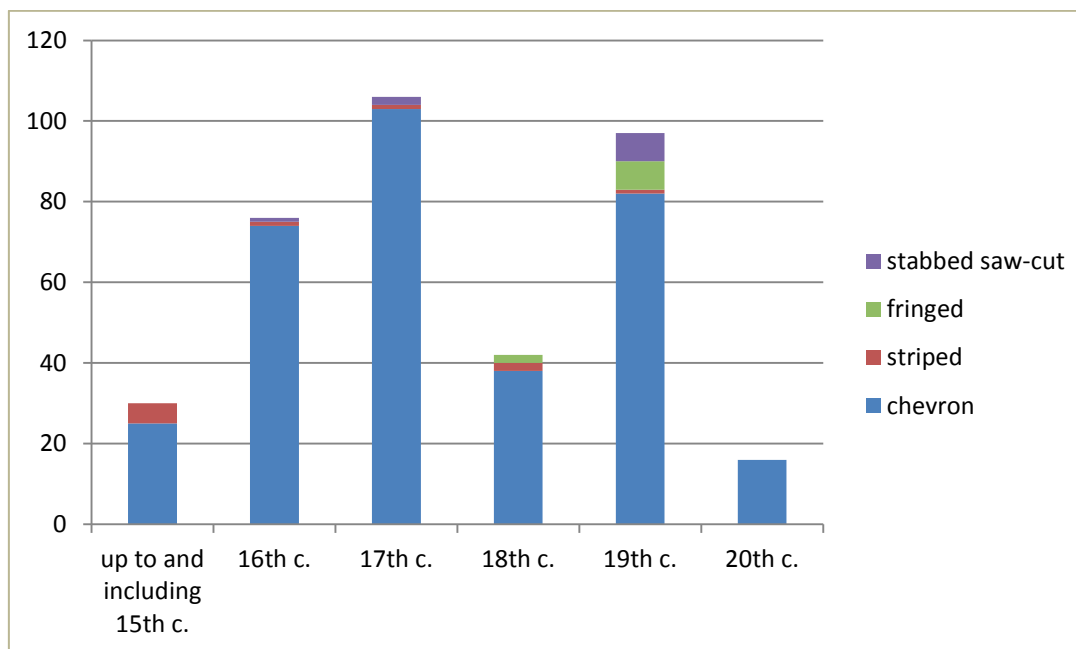


Chart 5. Occurrences of secondary endband types on dated manuscripts.

Apart from the chevron type, several other secondary endband patterns were distinguished, although they are closely linked to the predominant type. Technically there is little difference to be found, except for the direction of crossing the threads. The majority of these diverging endbands display the use of the same type of thread for the link-stitch sewing and primary endband sewing, indicating that these endbands are part of the original manuscript structure. There is a relative high occurrence of the diagonally and vertically striped pattern in Mamluk times, which corroborates the early literary sources in which different patterns are mentioned. The origin of only a few of the manuscripts on which they were found is known; the earliest original striped pattern is found on a manuscript dated 1369 and according to Weisweiler it originates from Iran, others were made in Egypt or Syria.<sup>24</sup> Two of the early specimens display flaws in the pattern: part of the rows consist of inverted sewing, resulting in a few chevron stitches amongst the striped design. [figs. 150, 151] It is feasible that similar errors originally led to the development of the variant patterns. Striped endbands were still made in the Middle East in the eighteenth and nineteenth centuries, and also as far away as Southeast Asia. Another variety was created by changing the colour of sewing thread with every pair of sewing tours, which caused the chevron pattern to alternate, or, in other words, a chequered pattern was created. [fig. 152] This may be the variant that was referred to in the historic treatise of Bakr al-Ishbili as the ‘chessboard-like pattern’.

The eight specimens of the diverging ‘basic wound endband type’ display a strong resemblance. They were only found on Persian manuscripts, although two of those also

<sup>23</sup> See below, paragraph 9. Images can also be found in Part Two, figs. 112-115.

<sup>24</sup> M. Weisweiler, *Der islamische Bucheinband des Mittelalters* (1962), p. 181.



Fig. 150. Or. 2072 (1404). A diagonally striped endband with mistakes in the sewing tours adjacent to the spine.



Fig. 151. Or. 546 (1224, though resewn). A diagonally striped endband with mistakes in the sewing tours close to the spine leather and in the centre, where part of a chevron is formed.



Fig. 152. Or. 11.913 (1630, Syria). A chequered chevron pattern, the red and yellow chevron alternate every second sewing tour.



Fig. 153. Or. 546 (1224, though resewn). The endband core consists of what appears to be a tightly rolled-up piece of parchment.



Fig. 154. Or. 25.662 (1920, probably Yemen). An endband with extended core slips, fastened on the textblock with a stabbed sewing.



Fig. 155. Or. 2611 (1767). An endband sewn without a leather core. Instead, the textblock edge was saw-cut and a thread, passing in this incision, functioned as a core to prevent the endband from slipping towards the spine.

contained Arabic text (one of the volumes being a dictionary, the other a *Diwan*); one of them is localised in India. Regrettably, the three dated volumes have traces of former sewing, which renders the dates unusable for dating the endbands and bindings. The bindings certainly seem to be related; for two of them exactly the same centre stamp and flanking stamps were used (Or. 1654, Or. 1672) which seems to point to one and the same workshop. The eight bindings have a full leather covering in common though the technique of application differs: two specimens were made with the two-pieces technique, the others are covered in one piece of leather, including the ones decorated with the similar stamps. Does this indicate that a bookbinder used the one and two-pieces technique capriciously? Or did two different bookbinders, each with their personal preference for a specific method, work on a set of bindings using similar materials and technique of endbanding? This remains speculative, and unfortunately clues as to where or when the work was conducted are absent.

### 3.2 *Tiedowns*

The Islamic manuscript tradition is characterised by consistency, especially with regard to the function of the endbands. As explained above, bookbinders significantly enhanced the strength of a relatively simple but quick sewing structure in this way. The quality of the whole structure therefore depended on the number of tiedowns in relation to the number of gatherings; as long as the ratio was 1 : 1 the construction was sound. It is only in the second quarter of the nineteenth century that the application of the primary endband structure started to change. In thirteen volumes it was noted that they were not provided with as many tiedowns per endband as gatherings. The earliest occurrence of this 'careless' primary endband sewing is a manuscript dated 1844, purchased in Yemen; none of the manuscripts is localisable by information provided in the colophon. When these items were studied closely it appeared that the tiedowns were not only applied sparingly, they were also not always sewn in the inner bifolio of the gathering. On the contrary, they seem to have been applied by randomly inserting the needle in the textblock which could even result in a tiedown positioned between gatherings.

Why did binders disregard a step in the process that had proven itself over so many centuries? Did they no longer realise how crucial the primary endband was for the longevity and strength of the binding structure? It is tempting to account for this development by pointing to the influence of Western binders, who started economising on the number of endband anchoring threads from the end of the fifteenth century onwards. However, by this time (the second quarter of the nineteenth century) Western binders had economised further and often only applied stuck-on endbands made of cloth. The lack of information on the origin of these volumes prevents further conclusions. The three items purchased in Yemen suggest that the decline in technique may have developed in the peripheral parts of the Islamic world. Binders in these regions were perhaps trained less well than craftsmen in the larger cities. It is feasible that when one has not learned the underlying importance of certain steps in a process, those steps are more prone to erosion. Apart from that, the absence of tiedowns centred in the spine-fold is rather logical for the saw-cut endband type (which was found in Yemen, see paragraph 3.4 below). With these items, the thread in the kerf prevents the gatherings from opening well into the gutter, so the binder had no easy way to discern the centre of the gatherings. In these instances, the tiedowns mainly serve to provide an anchor for the secondary endband sewing.

### 3.3 *Endband cores*

As leather was the standard material for endband cores, it is especially interesting to look for trends in the few anomalous materials – parchment, thread and textile strips, and twig-like plant material. The twig cores as well as the textile strips were encountered only on Southeast Asian manuscripts. Though strips of leather were also used in this region, a significant number, more or less a third, contain the alternative materials. As for the two manuscripts

with parchment endband cores, they seem to share no other characteristics. Or. 241 is undated but probably fifteenth century and Or. 546 is dated 1224, but is resewn and therefore the endband must be of later date. Both volumes have a diverging endband pattern, though the endband of Or. 241 is a chequered chevron and Or. 546 has a diagonally striped endband. [fig. 153]

While the textile strips on Southeast Asian manuscripts often protrude beyond the secondary endband sewing, so as to form the fringes of these endbands, usually any extension of leather cores were cut once the endband was finished. There are a few inconsistencies, where the binder appeared to have forgotten to cut these cores. However, some of the later volumes on which extending cores were found suggest a regional variety rather than an unintentional omission. These manuscripts are provisionally related to Yemen, where they were purchased. The leather cores are rather broad and their extending parts were not only pasted onto the textblock, but also stabbed so as to attach them with a thread as well. [fig. 154] Eleven manuscripts were provided with an endband for which a core was never used. [fig. 155]

### 3.4 *The saw-cut endband*

At first glance the saw-cut endband appears to be just another chevron sewn endband, albeit a somewhat crude version. When examined closely, however, one can notice a saw-cut in the head and tail edge, a few millimetres away from and parallel to the spine. In this incision lays a thread which is in some way fastened on the textblock spine, with or without being pulled through stabbed holes. Of this saw-cut endband type sixteen specimens were included in the survey.<sup>25</sup> Although most of them are dated, only two are actually localised, both in Yemen. Seven others, however, were purchased in Yemen in 1932, which also suggests they were manufactured in Yemen. The oldest manuscripts in this set were transcribed in the seventeenth century but the current sewing structure is not their original one; the ones without traces of former sewing stations are dated late nineteenth or even early twentieth century. As for their appearance, there are some noteworthy similarities between the volumes, which seems to indicate that the older manuscripts were rebound around the same time as the much younger volumes. All endbands except for one are sewn with a self-coloured and a red thread. The one purplish specimen is faded to such an extent that it has become difficult to tell its original hue; it may well have been a scarlet red. All these volumes have in common a slipshod primary endband sewing: the tiedowns are not sewn regularly and through the midst of each gathering, they seem to function primarily as a vehicle for the secondary sewing. Another characteristic they have in common is a rather crude secondary endband sewing. Eleven items have no leather or other endband core, the recessed thread served as the base on which the tiedowns were anchored. In a few cases this recessed thread seems absent. When a leather core was used, its extending ends were attached to the textblock adjacent to the joint, as described above. The fastening of the secondary threads is messy and sometimes the threads seem to be affixed in the joint instead of being attached through the gatherings. The thread is fairly thick and could well be cotton instead of silk, and not one of the endbands displays more than four sewing tours.

### 3.5 *Absence of endbands*

Interesting varieties were found in the endband sewing systems and the use of materials, but examination of the manuscripts without endbands also sheds light on the considerations of the craftsmen. It appears that endbands were omitted in a limited group of manuscripts only. They are either very thin, consisting of one or two gatherings, in which case they were sewn

<sup>25</sup> It is noteworthy that this particular feature was encountered on a larger number of manuscripts, however, the structures of these manuscripts were damaged to such an extent that they were deselected for present study.

with a link-stitch on multiple stations, as explained above. The outer sewing stations were then positioned close to head and tail, eliminating the need for an endband sewing which would have been difficult to produce on these thin volumes. Repaired volumes, now stabbed and with considerable paper damage, form the second group. Their condition accounts for the absence of endbands; former endbands were lost and the paper damage did not allow for new endband sewing. Obviously, the unsewn manuscripts with connective strips and wrapper bindings were never provided with endbands, as endbands are inextricably bound up with the sewing structure. Thus, they form the third group without endbands.

## 4 Covering

### 4.1 *Full and partial leather*

The earliest bindings in the Arabic collection are, without exception, full leather bindings. Unfortunately though not unexpectedly, repairs to spine and joints have caused substantial damage to the material evidence of many of these early bindings. The damages themselves, or the repairs subsequently carried out, often impair the evidence that can otherwise be found on the spine of full leather bindings indicating the use of the one piece or two-pieces technique. As a result, in the centuries up to and including the fifteenth century, the category 'full leather, technique not detectable' is larger than either of the other two groups of full leather bindings. [chart 6] Over the next centuries, the numbers of items in this category decreases significantly, relative to the number of full leather bindings in the other groups.

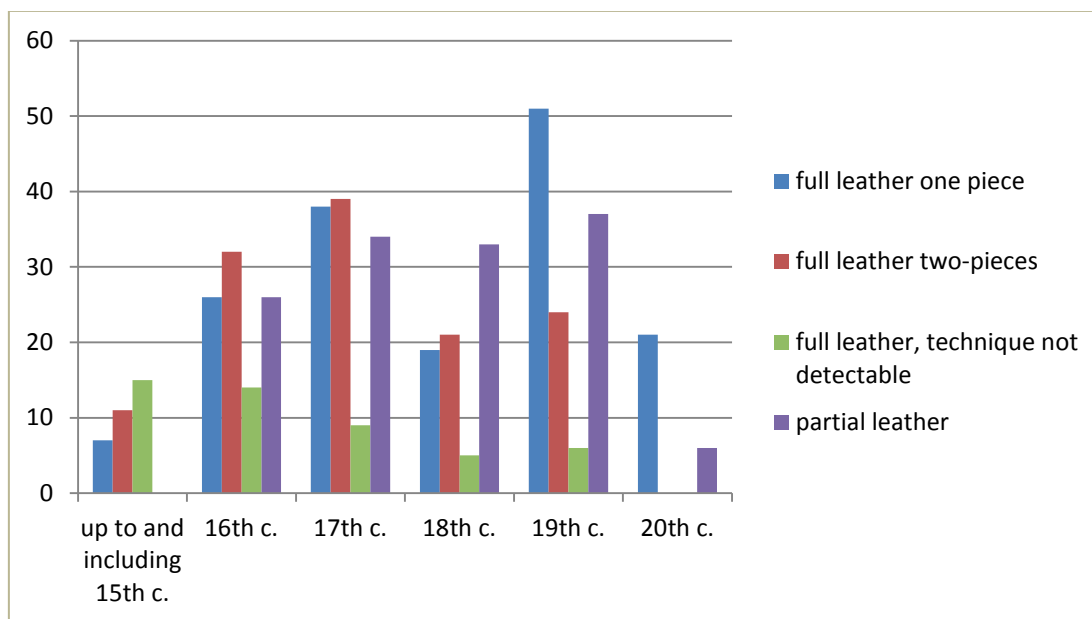


Chart 6. Comparison of basic covering types throughout the centuries, resewn and rebound manuscripts excluded.

The chart also illustrates the lasting importance of leather as a covering material; in none of the periods does the number of partial leather bindings exceed the total number of full leather bindings. The two-pieces technique, however, loses ground over the nineteenth century, and examples from the twentieth century were not found. The partial leather binding appears on the scene in the sixteenth century, but it never becomes the prevalent covering type. In the sixteenth and seventeenth centuries, the dominance of a full leather covering is found in almost similar percentages, respectively 73% and 72%. In the eighteenth

century the partial leather binding gained more popularity; the numbers of full leather bindings make up 58% of the volumes, in relation to 42% of partial leather bindings. From the nineteenth century onward, full leather bindings regain their dominance; 69% of the nineteenth-century bindings and 78% of the twentieth-century bindings in the UBL collections were bound in full leather. These figures contradict the idea that the partial leather bindings with paper covered boards increasingly replaced full leather bindings for economic reasons.<sup>26</sup> Instead, it seems that the availability of decorated papers present an alternative covering scheme and their use may represent a shift in fashion, while the over-representation of full leather bindings in peripheral areas may signify the unavailability of decorated papers in those regions, and suggests that leather may have been cheaper than decorated papers.

Although the present study did not include binding decoration and tooling, it is worthwhile to mention the frequent occurrence of leather overlays (often called 'onlays'), on bindings from different geographic origin (though not Southeast Asia) and from the sixteenth century onwards. It is evident that this technique was used far more often than suggested by Adam Gacek.<sup>27</sup> [fig. 156]

#### 4.2 Full leather bindings in one and two pieces

The earliest dated occurrence of the two-pieces technique is a manuscript cautiously dated 1218 (Or. 122).<sup>28</sup> The earliest dated volume covered in one piece of leather is copied in 1321 (Or. 177). Up to the eighteenth century, the numbers in each group do not differ widely, though the two-pieces technique appears to have been somewhat favoured throughout the centuries. Over the course of the nineteenth century we can detect a change in this preference as the two-pieces technique went out of use and from the twentieth century no examples of the two-pieces technique could be identified. It has already been said that the two-pieces technique has been long overlooked, or, if it was noticed, scholars in Islamic manuscript studies failed to mention the observation. When it finally came up in publications, the authors were conservation specialists.<sup>29</sup> The dates now found for this particular method are of significance as it appears that the technique developed far earlier than first suggested.<sup>30</sup>

As both techniques are found on bindings from Mamluk times onwards, the question arises whether trends can be discerned that are regionally dependent. It appears that in Central Asia and Southeast Asia, the single piece of leather was the prevalent technique. This triggers the question why the two-pieces technique was preferred to the use of one piece in the other parts of the Islamic world? Reflecting on the rationale behind this technique in Part Two, I suggested that the method seems to be related to the embellishment of the boards. The tooling, and in particular the application of pressure to the boards logically requires a firm surface to work on, which is not provided by the manuscript itself. Therefore, it seems logical that binders developed a technique which allowed them to work on the boards apart from the textblock. The findings of the survey, however, press us to think about the technical differences between the earlier tooled bindings – made with small tools containing discrete

<sup>26</sup> This development was suggested by François Déroche, *Islamic codicology* (2006), pp. 266-267.

<sup>27</sup> Gacek states that only one example has thus far been recorded; *Arabic manuscripts. A vademecum for readers* (2009), p. 171.

<sup>28</sup> This date was given by Voorhoeve, but according to Witkam, this cannot be corroborated by the manuscript; see J.J. Witkam, *Inventory* vol. 1 (2007), p. 57.

<sup>29</sup> K. Rose, 'Conservation of the Turkish collection at the Chester Beatty Library' (2010), pp. 47-48; K. Scheper, 'Refining the classification of Islamic manuscript structures' (2011), pp. 366-368; J. Benson, 'Satisfying an appetite for books' (forthcoming).

<sup>30</sup> Benson places the first occurrence of the two-pieces technique at the end of the fifteenth century, p. 2 of his text; Rose found several examples of the technique on sixteenth-century bindings in the Chester Beatty library and suggested an Ottoman origin, K. Rose, 'Conservation of the Turkish collection at the Chester Beatty Library' (2010), p. 47.



Fig. 156. UBL Acad. 262. An example of a leather overlay in a corner stamp.



Fig. 157. Or. 8350. A binding with turned-out doublures. The back cover and flap display the discolouration of the leather: the edges and fore-edge flap covering were green, the panels red.



Fig. 158. Or. 8350. Detail of the fore-edge flap at the tail. The separate strip of leather covering the fore-edge flap overlaps the green edges of the boards (which are the turn-outs of the doublure).



Fig. 159. Or. 8350. Detail of the flap, showing the cut line between the red leather and the green leather edges.



Fig. 160. Or. 1570. A composite leather binding with turned-out doublures.



Fig. 161. Or. 1570. Detail of the fore-edge flap. The edges of the separate pieces of leather are visible on the board-panel side of the gold-tooled and dotted line. The differences in the structure of the pieces of leather is also noteworthy.

patterns, applied to create a larger overall design – and the stamped bindings of later times, made with panel stamps much larger in surface. With these stamps, the complete centre piece could be pressed into the leather in one action. The technique using two-pieces of leather seems to have originated with the Mamluk binders.<sup>31</sup> Or. 122 is the earliest example present in the UBL. Its covers are indeed finely tooled. Even though the application of the small tools onto the leather surface would not have required heavy pressing, one can imagine that it would have been easier to execute the work when the board surface – onto which the tools needed to be applied – was directly placed on a flat surface rather than a raised level, that is, the book itself. The elaborate designs of these early bindings involved the use of multiple small tools, hours of work and high concentration. Every means to ease the work would have been welcomed, and thus it is plausible that this led to the development of the two-pieces technique, which allowed for individual tooling of the covers in the most practicable circumstances.

In early Ottoman times, a new type of tool was developed that contained the entire design of a centre piece or a corner piece. In terms of ‘time management’, the development must have been a major improvement; pressing only a few stamps to create a complete design would have saved considerable time compared to the traditional decoration method using multiple small tools that needed to be pressed individually and sequentially. However, although the application of the decorative elements could now be executed more quickly, it is quite plausible that binders stuck to their working routine when they were used to preparing the boards off the textblock. This is especially true since the larger stamps also needed considerably more pressure in order to leave a proper imprint in the covering leather. To achieve a good result, a firm working surface was required, so working with two separate pieces of leather was still advantageous. We may assume that craftsmen held on to a working system, as long as it was opportune to do so, and bookbinders had no reason to change the method of the two-pieces technique when their decoration techniques developed and tooling became stamping. Moreover, as the technique was practicable in general, it also continued to be used in times when an increasing number of modestly tooled or even plain bindings were produced. This explains the domination of the two-pieces technique over the covering method using only one piece of leather. The continuous use of the technique, throughout the manuscript period, therefore provides no clues to localise or date a binding.

It is important that so far, to my knowledge, this technique has not been reported to have been used on leather bindings from other traditions, either in the Orient or in the Western world. Some caution is needed, however, for even the two-pieces technique widely used in Islamic bindings has only recently been recognised and described in the literature, so it is conceivable that the method has been used in other traditions but is likewise overlooked or ignored. Presently, however, it seems that the technique is typical for Islamic bookbindings, and as such it is an important characteristic, rightfully deserving to be recorded when a binding is described in a catalogue entry or condition report.

#### 4.3 *Composite leather bindings*

The exceptional full leather bindings, composed of several pieces of leather, sometimes executed with turn-out doublures, were already described technically in Part 4, paragraph 2.5. Their number may be small, but the remarkable techniques used to make these bindings are well worth examining further (Or. 1570, Or. 8261, Or. 11.050, Or. 11.052, and Or. 14.366).<sup>32</sup>

<sup>31</sup> Whether the earlier binding type, the box-binding, ever involved the use of separate pieces of leather to cover both boards, is presently unknown. We do know, however, that wooden boards were used, which by nature provide a firmer surface for leather decoration.

<sup>32</sup> Or. 1570 is dated 1560, the manuscript was resewn before 1840 when it was purchased by the library. Or. 8261 is not dated. Or. 11.050 probably dates from the late nineteenth century. Or. 11.052 is dated 1768, and Or. 14.366 is dated 1806. These manuscripts are all luxurious copies, with illuminated opening

One of them, Or. 1570, is a *Diwan* written in Persian and dated 1560. The spine-folds of the gatherings are repaired so the manuscript is re-sewn, and as a consequence, the binding is presumably not contemporary. [figs. 160-163] It has turn-out doublures: the leather doublures fully cover the inside of the boards and subsequently are folded over the board edges onto the exterior of the binding. Thus, the turn-outs cover the edges of the boards. The exterior surface of the boards are also covered with leather, and the fore-edge flap is covered with a separate piece of leather. In addition to these multiple pieces of leather, we can also recognise a two-pieces technique on the spine. The exceptionality and complexity of this composition makes one wonder if the doublures in question were not re-used reversed leather covers. After all, the doublures were not attached to the textblock with a stub but the leather appears to disappear behind the textblock spine. However, after closer inspection it seems safe to conclude that these leather doublures were never used as the exterior of a bookbinding. The black-greenish doublure leather has no tooling and is only sparsely decorated with two frame lines painted with silver close to the edge, a modest decoration quite typical for Ottoman leather doublures. Furthermore, there is no trace of abrasion or other sign of use, which would have been apparent had the boards formerly been used as the outer covers of a manuscript. Nevertheless, the leather is not the primary spine-lining; a layer of blue cloth through which the primary endbands are sewn is clearly visible. This cloth lining has no extended sides and therefore no function in the (present) board attachment. Whether the tiedowns were also sewn through the leather lining – continuing into the doublures – cannot be ascertained. The turn-outs do not overlap the leather panels on the outside of the boards, nor vice versa; the parts neatly adjoin each other. This is one of the most noteworthy aspects of this type of covering, since usually we find pieces of leather overlapping. In this case, the binder intentionally cut the different parts of leather exactly to size so that they abut, but do not overlap.

A comparable binding was encountered among the deselected manuscripts. This specimen, Or. 8350, is in poor condition and meddled with to such an extent that one doubts that the connection between textblock and binding is original; the spine is too wide, there is an older cloth lining, the textblock now has a stabbed sewing though it was formerly sewn in the spine-folds, and the inner joints are tattered and repaired.<sup>33</sup> Nevertheless, due to its poor condition, this binding offers some interesting clues. The leather doublure is olive green, although the turn-outs appear to be a dull brown, a discolouration caused by light. The spine and fore-edge flap covering consist of the same leather, whereas the panels on the outer surface of the boards are red leather. [figs. 157-159] On the front and back cover the original intensity of the colour is almost indiscernible since dirt and discolouration have turned the red into a colour not much different from the edges and the spine. The flap, however, which was protected from light and dirt, bears witness to the contrasting colours. Here, the tooling and gold painting along the borders are also better preserved and this part of the binding still offers a glimpse of the binding's former splendour. But why did the binder chose to make it with such a complicated and rare technique as turned-out doublures? Closer examination of the damaged edges of the covers sheds light on this question. Underneath the fragmentary brown turned-out edges we find, in a few places, a bright red leather. This is also cut, and adjoins the centre panel, and in it we see the same impression of the small dotted tool, but no gold paint. Does this indicate that the edges were formerly covered with separate strips of red leather, almost the same colour as the leather panels? No! It is the knife-cut between panel and edges that is causing the confusion, giving the impression that the red strips on the edges are separate from the red panels. But at the same time this knife-cut may provide the answer to this construction. It seems that at one time the boards of this binding were covered in the

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pages and golden frame-lines throughout the textblock; thus, the richly decorated bindings accord with the textblocks.

<sup>33</sup> Or. 8350 is an undated manuscript formerly belonging to the collection of Paul Herzsohn (1842 - 1931).

splendid red leather. However, wear and tear caused damage to the edges of the covers and quite possibly also to the board attachment. When repair could no longer be postponed, some binder decided to reuse every bit of the original that could be salvaged. The cloth lining was kept, although the flanges were cut off (if they were not already torn off along the inner joint), and the covers with their old red leather covering were used in the new composition. For board attachment *and* covering of the tattered board edges, the binder applied a new – olive green – leather lining to the textblock spine, wide enough so that this leather covered not only the interior of the boards, but also the damaged edges. Then, after turning this green doublure leather around the board edges and over the red leather, a ruler and a sharp knife were used to cut the excess of green leather at a distance of more or less a centimetre from the board edge. Thus a straight line was created which allowed the binder to take away the excess of green leather on the panel side of the cut line, leaving a neat green leather frame around a red panel. There was no need to scrape away the excess of red leather now underneath the green edges, for it was not visible and did not show as it was not bulky. To further disguise the intervention, the binder tooled a border of small dots in the newly applied leather edge and painted it gold; the binding must have looked as though it was new.

Although Or. 1570 is in much better condition and offers no direct clues for the theory that the turn-out doublures might indicate an interventive repair, at least one similarity catches the eye: the cut flanges of the cloth lining. Also the resemblance between the contrasting shades of leather and the pattern of the tooled border is intriguing, even if it is not conclusive evidence of repair. But looking at these borders it is strange that the shade of gold used to paint the little dots is so different from the gold used for the almond shaped stamp in the centre. [fig. 162] As if to disguise the difference, the diverging gold paint was also applied in a thin line around the centre piece, an awkward use of decoration, in fact, and crudely executed. The gold paint could have been used to mask the time difference between the two separate binding processes. Further detective work revealed one other small detail that corroborates this theory. The small stamp in the point of the envelope flap is placed so close to the edge that the green leather borders needed to be adjusted in order not to intervene with this part of the decoration. [fig. 163] In the logical order of events this would not have been necessary, for had the turn-out borders been originally part of this binding, then they would have covered the edges before the binder took his tools to apply the decorative shapes. In that case he would either have positioned the stamp a little more to the left so that the stamp did not interfere with the coloured leather edge, or he would have mistakenly applied the stamp partly onto the green leather, with the result that part of the recessed stamp on the right side would have a different colour than the rest. The fact that neither is the case, and that conversely, the shape of the leather turn-outs is adjusted to the position of the stamp indicates that the stamp was there first and the edges applied later. This certainly supports the repair theory.

The only other binding in the selection with a similarly worked leather doublure is Or. 8261, an undated composite volume. [figs. 164, 165] However, the method to make this binding was quite different. After sewing, the textblock spine was covered with a caramel-coloured leather, extending on both sides so as to cover the textblock fully. Remarkably enough this leather was adhered on the flesh side, contrary to the usual way of lining the spine with leather. Subsequently red leather doublures were applied, flesh side to flesh side as a result of the reversed application of the leather lining. In addition, these sheets of red leather were larger than the textblock and their protruding parts were turned-out over the edges of the caramel-coloured leather which was cut flush with the textblock. Finally, a piece of leather of the same colour and structure as the doublures was used to cover the spine, which meant that this part was adhered with its flesh side onto the hair side of the underlying piece of caramel-coloured leather. The sides of this red leather on the spine were neatly cut just beyond the outer joint. Thus a border of red leather was formed to frame the brown



Fig. 162. Or. 1570. Detail of the back cover. The gold of the central stamp and flanking stamps is of a different colour than the gold that was used to decorate the dotted frame lines and the painted lines around and between the stamps.

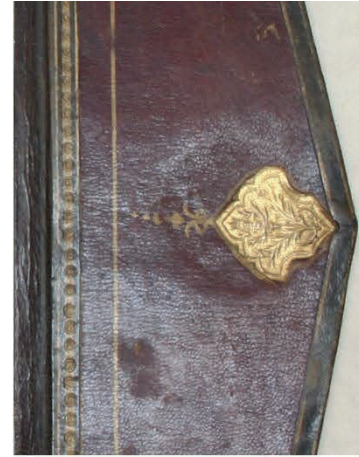


Fig. 163. Or. 1570. Detail of the envelope flap; the edge of the turned-out leather doublure is cut to fit the small stamp in the point.

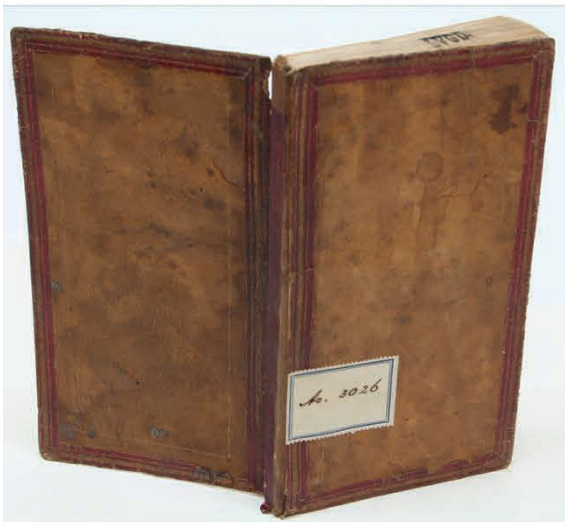


Fig. 164. Or. 8261. A composite leather binding with turned-out doublures.



Fig. 165. Or. 8261. The doublure of the back cover; the edges of this leather are turned-out to cover the edges of the exterior.



Fig. 166. Or. 14.366 (1806, probably Istanbul). A composite leather binding with yekşah technique.

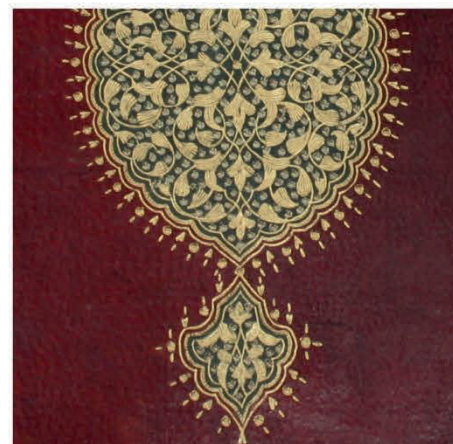


Fig. 167. Or. 14.366 (1806). Detail of the yekşah technique.

board panels. The covers, in this specimen, contain no cores and consist of the caramel-coloured leather and the red doublures only.

The rationale behind the making of the turned-out doublures remains speculative. Working with extending doublures seems a revolutionary way of covering board edges, which in a way is a reversed approach to the binding process. Indeed, in the more typical binding the application of the doublure is one of the last steps in the process, when the textblock is already attached to the covers and the leather exterior covering is in place. With this novel approach, the doublures must be applied before the exterior board covering is finished. Apart from being contrary to the common procedure, it seems to have been more complicated, and as an innovation it appears not to have been successful, given the numbers of replication. It is easier to comprehend the making of the composite leather bindings which have regular (that is not turned-out) doublures or paste-downs. The colour differences between the leather on the edges and the leather in the centre of the panels support the visual effect of the decorative scheme of frame lines and centre pieces, while the application method is only a variant on the well-known and much used covering scheme, the *çaharkuşe* method. All three examples in the selection originate from the eighteenth and nineteenth centuries. Of these, Or. 14.366 is most remarkable as it is a very elaborately tooled binding, dated 1806 and probably written and bound in Istanbul.<sup>34</sup> Different colours of leather were used to enhance the beauty of the decoration; one colour was used along the edges of the covers but also for the central medallion, which was tooled on a leather overlay. The burnishing and etching of gold tooled patterns is called *Yekşah* in Turkish. [figs. 166, 167] Other known *yekşah* bindings were made from the seventeenth to nineteenth century and it appears to be a practice typical of the Turkish bookbinding tradition.<sup>35</sup>

The relatively recent development of these composite leather bindings – given the much older but comparable *çaharkuşe* covering technique – and the occurrence of this composite technique on repaired bindings suggest that it may have been used as a repair technique first. Mending the damaged edges of full leather bindings with contrasting strips of leather was an economic and aesthetically pleasing method of reusing most of the older material. In later centuries this may have transitioned into an original binding technique in order to produce aesthetically pleasing, luxurious volumes.

#### 4.4 *Limp leather bindings*

Although the soft, flexible, wrapper-like leather binding seems almost an anomaly in the group of full leather bindings, it occurred often enough to form a small subcategory. The limp leather bindings are made without boards, and often even without a doublure or any other strengthening on the inside. Most limp bindings in the corpus have no fore-edge and envelope flap, they often lack turn-ins and are decorated hardly at all. On the other hand, they have a proper construction, they are sewn, lined and provided with an endband as with any other Islamic manuscript. Despite the shared characteristics, several sets could be discerned.

The earliest true limp leather binding is dated 1620, for which no location was given in the colophon; in the latest example, a manuscript which is dated 1779, again no origin was given. The oldest dated one belongs to a set of six bindings with several striking similarities. The most important of these is the type of thick leather which was used, possibly camel hide,

<sup>34</sup> Legacy of C. van Arendonk (d. 1946); the volume consists of two texts in the hand of one copyist, see: J.J. Witkam, *Inventory*, vol. 15 (2007), pp. 166-167.

<sup>35</sup> This decorative technique has not widely been researched, but lately a small collection of endowment deeds bound in *yekşah* bindings was studied by Paul Hepworth, '*Yekşah* tooling: a technique not an identity' (forthcoming 2014). An example was also published by Z. Tanımdı, 'The Ottoman palace workshop' (1990-1991), p. 97.

which has a pronounced grain pattern, and is soft and firm.<sup>36</sup> These leather covers were all cut flush with the textblocks on all sides, so that the bindings have no flaps. With the exception of the largest volume, none of the leathers were decorated; the largest one has a blind stamp in the centre of the covers, vertically flanked by blind tooled lines. The spines of the manuscripts were all lined with leather, the flanges of which were pasted onto the inside of the leather binding, but prior to this the endbands were sewn with thin coloured silk. Two volumes in this set are manuscripts from the fifteenth century, but they are resewn and the present limp cover is not the original binding. One other manuscript can be dated to the first half of the seventeenth century since the author of the text was a contemporary of Levinus Warner. As the other undated volumes were also in Warner's possession they can be roughly dated in the first half of the seventeenth century as well, or at least before 1665. The physical evidence thus points to a set of manuscripts bound on commission by a single bookbinder. The similarity of the hands used to write the title on the tail edge of four of these manuscripts confirms the suggestion that they derive from one owner. [figs. 168, 169]

One wonders who wanted such thick, almost wrapper-like leather covers for his manuscripts. Who ordered them, with what aim? The texts cover diverse topics, for example a treatise on horsemanship and cavalry, a linguistic work, a composite religious volume, a work on family names and a biography. It seems they belonged to someone who spent money to build his own personal library but who choose to have the texts put into simple, relatively cheap but functional and durable bindings. These are books intended for use, they are not meant to impress by their beauty. A few more sets of such bindings were encountered, which can be traced back to different periods and binders, according to their physical characteristics and provenance information.<sup>37</sup> [figs. 170-172] Apparently, bookbinders offered this low-budget option to their customers as an alternative for more costly bindings with boards, more elaborate tooling and doublures. How widespread this practice was we do not know; much of the physical evidence may have been lost over the ages, as the limp bindings may have been discarded in later times.

A closely related category of bindings concerns manuscripts that appear to have been written in already bound volumes: blank bookblocks that must have been sold as a kind of stationary bindings. Within this group, we find *safina*, or oblong shaped manuscripts.<sup>38</sup> [fig. 173] Often they are not regular textbooks, instead, these books were intended to be used for personal notes or to assemble a personal collection of poems and songs.<sup>39</sup> Several of the *safina* in the UBL collection contain gatherings without text, which is an extra indication that the book was bound before the text was written. In addition to these small oblong shaped manuscripts, it seems that blank volumes were also sold in a vertical format. Or. 945, a composite volume with medical and other texts, in Persian and Arabic (dated 1566), is an example of such a binding. The dark green covering leather is modestly but delicately gold

<sup>36</sup> Or. 465, Or. 685 (1620), Or. 752 (author d. 1644), Or. 835 (before 1634), Or. 968 (1451, but resewn so limp binding appears of later date) and Or. 1652. The latter was not in Warner's collection, but purchased in 1860, from the library of Dirk Cornelis van Voorst and his son Jan Jacob van Voorst.

<sup>37</sup> These are Or. 1506 (1664), an individual acquisition made in 1839, and Or. 1548 (1692-3), from the Testa collection. See J. Schmidt, *Catalogue of Turkish manuscripts*, Vol. 2 (2002), pp. 80-81; the manuscripts are bound in similar limp leather bindings made of sheep skin, with tabbed spines. Two other manuscripts, Or. 6866 and Or. 11.037, also display remarkable similarities. They are covered in black goat leather of which the edges were turned-in, directly onto the flesh side of the leather. The latter two were quite elaborately tooled, and the manuscripts have a similar owner's label. Though the manuscripts arrived at the UBL in different times from different antiquarian booksellers, they seem to have been bound in affordable user's bindings by the commission of the same owner, probably in India in the late eighteenth century.

<sup>38</sup> See also 8.3 below.

<sup>39</sup> The personal character of the contents of these books is evident from the descriptions in the catalogues, see for example J. Schmidt, *Catalogue of Turkish manuscripts*, Vol.1 (2000), pp. 393-396 (Or. 1088), 398-409 (Or. 1090), 410-412 (Or. 1096).



Fig. 168. Or. 465, Or. 685 (1620), Or. 752, Or. 835 (before 1634), Or. 968 (1451, but resewn) and Or. 1652. A selection of similar limp leather bindings.



Fig. 169. The tail edges of the same selection.



Fig. 170. Or. 1506 (1664) and Or. 1548 (1692-3). Limp leather bindings made with tabbed spines.



Fig. 171. Or. 6866 and Or. 11.037. Decorated limp leather bindings with turn-ins.



Fig. 172. Or. 11.037 (1779). The inside of the limp leather binding, the turn-ins were adhered directly onto the flesh side of the leather, but doublures were never applied.



Fig. 173. Or. 1097. A safina manuscript; the binding is a limp leather binding (there are no boards) but the interior is covered with coloured paper doublures.

tooled and the doublures consist of thin, red leather; the binding has no envelope flap. The textblock, consisting of quinions, contains several empty pages. It is especially remarkable that the first eight folia are blank, and that between the foliated pages f. 39 and f. 51 a complete blank gathering is found. This surely indicates that this manuscript was written after binding, since it is not likely that a bookbinder included an empty gathering and surplus bifolios at the beginning of a text. In other words, the volume was traded as a blank miscellany.<sup>40</sup>

The degree of tooling and finishing and the overall aesthetic quality of these flexible leather bindings varies. Technically, these notebooks were sewn, lined and provided with endbands that conform to the usual methods. Yet, their modest leather bindings perhaps made them economically attractive in a middle class milieu.

#### 4.5 *Partial leather bindings: the çaharkuşe binding*

It remains uncertain when the partial leather binding was introduced. In this study, all the early manuscripts, dating from the fourteenth and fifteenth centuries, which have a partial leather binding appear to have been rebound. As a consequence, original çaharkuşe bindings originate only from the sixteenth century onward; the earliest is dated 1513 (Or. 781), which is an exemplar without leather strips on its horizontal edges, and its boards covered in plain dyed paper. Partial leather bindings occur regularly well into the nineteenth century, and three specimens even date from the twentieth century. Relatively few volumes have colophons mentioning the place of origin, but those that do come from Istanbul and other places in Turkey, Jerusalem, Damascus, Turkmenistan and Bukhara (in present day Uzbekistan). The three most recent partial leather bindings were purchased in Yemen. It is noteworthy that this binding type is not found in Southeast Asia.

The appearance of the items within this category varies hugely, though it appears that the paper used to cover the boards was always dyed or decorated with a marbling or block-printing or other decorative techniques; plain, uncoloured papers were not encountered.<sup>41</sup> The first çaharkuşe bindings belong to the Ottoman realm. These sixteenth- and seventeenth-century partial leather bindings were frequently covered in beautiful marbled papers. In Central Asia, the partial leather bindings are commonly covered in monochrome dyed paper, such as olive greens and mustard colours. These paper coverings are usually highly polished and possibly treated with a protective layer of shellac or similar material. Often, the almond shaped centre-pieces and flanking stamps are combined with thin leather or paper overlays in contrasting colours; the bindings are made with care and precision. Quite different in appearance are the çaharkuşe bindings from the Arabian peninsula or Yemen. Although comparable in type – leather spine and edges, paper covering, decorated with a central motive – the manner in which these bindings were crafted and the materials used are rather different. The leather is much coarser in structure and also thicker, neither the leather spine nor the leather on the fore-edge flap or board edges seems to be pared. The paper covering the boards is not polished, and has an open, fibrous structure. Furthermore, the decorative paper elements are crudely cut and pasted on the boards. All dated examples were made in the late eighteenth or nineteenth century.

In regard to these bindings, first of all there is the question of economising: was this type of binding initially developed to cut the costs of material or labour? If that were true, one would expect to find plain bindings without tooling, and a minimal use of leather combined

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<sup>40</sup> The term “blank miscellany” is used by Meredith Quinn, who conducts a PhD on Ottoman books and their readers. The development of a trade in blank books is corroborated by references to “beyaz mecmua” (blank miscellanies) Quinn found in four individual, probate court inventories from Istanbul. The blank miscellanies were listed among the possessions of the deceased; the inventories date from 1661 and 1668. (Personal communication and e-mail dated 25-08-2014)

<sup>41</sup> The codicological value of the different types of decorated paper is elaborated on in paragraph 8.1, below.

with the cheapest sorts of paper. Although such bindings do exist, a large number of bindings do not indicate scarceness of expensive materials or cost-cutting on labour. The large majority of çaharkuşe bindings are covered with decorated paper instead of 'plain' paper. And even those are not ordinary papers; they are always tinted or dyed, and often polished.

Although it is impossible to date many çaharkuşe bindings because they are not contemporary with the manuscript, there are some from the sixteenth century in which marbled paper is used sometimes in combination with additional decoration techniques such as tooling and leather overlays, that are contemporary. This indicates that the partial leather covering scheme had not been developed just for economic purposes. However, it is not unlikely that the type gradually did develop towards a cheaper alternative to full leather bindings. It is therefore interesting to look at the partial leather bindings without leather on the fore-edge of their envelope flaps, as these bindings represent the cheaper variant of the partial leather bindings. It appears that even in this sub-category substantially more marbled than plain papers are found; 62% versus 36% plain paper coverings.<sup>42</sup> This at least points out that although cost-efficiency may have been important, the aesthetical appearance of the books dictated some kind of elaboration. However, it is noteworthy that hardly any tooling is found with these partial leather bindings; this extra bit of elaboration seems to be reserved for the çaharkuşe bindings in which all edges are covered in leather. Or. 197 is an example of a çaharkuşe binding that can be assumed not to have been made merely for economical reasons. The leather around the edges is too broad and nicely tooled, and the inner joints have decorated cut edges. [fig. 174] There may have been some economising on materials, such as the omission of a leather strip on the front edge of the envelope flap, and the use of plain papers for the doublures; still, the making of this binding was relatively labour intensive.

On a different plane, the occurrence of 25 çaharkuşe bindings with a two-pieces technique on the spine is intriguing, as there seems to be no need to prepare these often undecorated boards individually and separately from the textblock, and the application of such small strips of leather on the board edges seems impractical. [fig. 175] Initially, one might hypothesise that this technique was used rather routinely, after the fashion of the full leather bindings, and only shortly after the introduction of the partial leather technique, when the two-pieces technique was still embedded in the daily working practice. However, the physical evidence proves otherwise. Partial leather bindings made with two-pieces of leather on the spine were found throughout the centuries; in the group of unrepaired volumes, five manuscripts from the seventeenth century, two from the eighteenth, and three from the nineteenth century were found. From my model-making practice I learned that the use of the two strips is in fact not impractical at all, since the boards are positioned on the textblock before these separate strips are applied, one by one.

#### 4.6 *Partial leather bindings: lacquer bindings*

Lacquer bindings are known to have been made from the end of the fifteenth century onwards.<sup>43</sup> In *Lacquer of the Islamic lands* (1996), the term "Bookbinder's lacquer" is introduced. The term is used for both lacquered bindings as well as other items such as pen cases, mirror and spectacle cases and other caskets, as these boxes shared the same material basis as the bindings: sheets of paper pasted one on the other. The outer layer of these sheets was decorated with paintings and then lavishly varnished. Throughout the said publication this paste-paper basis is referred to as "papier-mâché". Although the term indicates a material consisting of either sheets of paper or paper pulp, bound with an adhesive, it is strongly

<sup>42</sup> Compared with the full çaharkuşe bindings, which have a ratio of marbled to plain paper of 55 : 35, the usage of marbled paper is higher rather than lower.

<sup>43</sup> See N.D. Khalili, B.W. Robinson and T. Stanley, *Lacquer of the Islamic lands* (1996), p. 12.

associated with mashed paper, pressed into a certain shape. Therefore, in those instances that the boards are evidently made of paste-paper, the term *papier-mâché* is best avoided.

In the publications on lacquer bindings the technique of board attachment is never a point of discussion. This is remarkable since these bindings consist of paper-painted boards and a leather spine, as well as a leather fore-edge flap – provided a flap was made –, while the envelope flap, when present, is again made of pasteboard decorated with paints and lacquer. Considering this compilation of materials the bindings could have been denoted as “quarter leather bindings”, in line with the unfortunate use of the term for *çaharkuşe* bindings that lack strips of leather on the horizontal board edges. Instead, the structural composition of these manuscripts is ignored altogether. Apparently, the artistic and decorative quality of lacquer bindings completely overshadows the material and technical characteristics of these bindings. The seven specimens in the corpus attest that, in order to attach the lacquer boards to the textblock spine, individual pieces of leather were used, each applied to a board edge along the joint, the pared extensions overlapping on the spine, as with the common two-pieces technique. How precisely these strips of leather are connected to the boards is difficult to discern; at least the strips were not adhered *onto* the lacquer layer.<sup>44</sup> The leather rather seems to blend into the lacquer or paint layers from which I deduce that one long edge of the leather was adhered onto the board, possibly after the application of the first layer of gesso ground. Whether the edge of the thinned leather adhered onto the board was also covered with a thin layer of gesso, or if it was merely painted together with the base layer of paint, is not discernible without microscopic research of the layered materials. Nevertheless, from close visual inspection it can be determined that the pieces of leather were fixed to the pasteboards prior to applying the paint and lacquer layers or perhaps applied onto a first gesso layer.<sup>45</sup> Thus, the individual boards were already prepared for textblock attachment while they were being constructed. It is reasonable to assume that the two-pieces technique was used to enable the artist, responsible for the painting, to work on the covers separately. And unlike working with a single piece of leather, potential difficulties with regard to the thickness of the textblock and width of the spine leather could be avoided this way. The rationale behind the use of the method is consistent with the regular two-pieces technique.

Instead of being covered with *doublures*, the inner covers of lacquer bindings were often painted as well, though this painted surface was not covered with as many layers of varnish as the exterior. This method of decoration influenced the structure of the inner joints. Indeed, if the flanges of the lining would have been adhered onto the insides of the boards, they would have covered part of the painted surface. The examined specimens attest the use of cloth spine-linings, however, any fabric exceeding the width of the spine was cut along the joint. As a result, the attachment of the boards was not strengthened with the flanges. Instead, the inner joints are not covered at all, or a separate, small strip of either paper or leather was pasted over the joint. It seems likely that these strips were later additions; the board attachment, consisting only of the leather outer joint, was relatively fragile and these inner hinges were added to support the board attachment and prevent the joints from tearing.

#### 4.7 *Partial leather bindings: the paper binding*

While the lacquered boards were attached to the textblock with separate pieces of leather, the last group of nine partial leather bindings have a leather spine made with only one piece of leather. These are simple and certainly cheap bindings with paper covers. But even here, the paper is not of the plainest type; eight of them are marbled and on one volume block-stamped

<sup>44</sup> Some examples of leather spines with edges that do lay on top of the lacquer boards were found, but these were repair spines and they are not included in the corpus.

<sup>45</sup> No indication was found that the leather was inserted in the boards, between layers of the paste-paper.



Fig. 174. Or. 197. A partial leather binding, made with labour-intensive techniques such as tooling around the edges and a decorated cut edge of the paper covering. The leather inner joints also have nicely decorated cut edges.

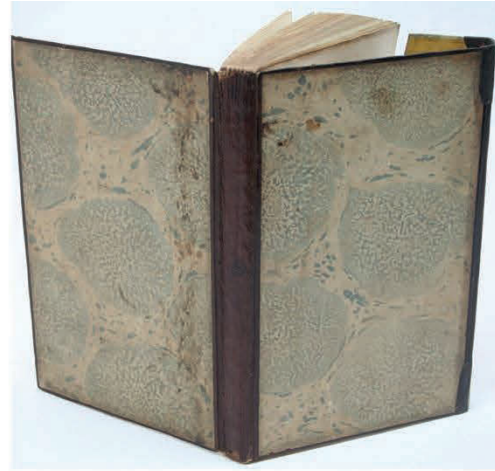


Fig. 175. Or. 25.723 (1788). A partial leather binding, made with two pieces of leather on the spine.



Fig. 176. Or. 873 - without flap - and Or. 827 (1639) - with a flap. Examples of bindings with hardly any boards.



Fig. 177. Or. 2149 (before 1874, Southeast Asia). Because of the damaged leather covering, the leather board is displayed.



Fig. 178. Or. 26.660 (before 1800, Turkmenistan). A binding from Central Asia with relative long tabs.



Fig. 179. Or. 22.322 (1919) (r) and Or. 22.321 (l). The spines are tabbed and pierced with a thread that is vertically wrapped around the spine.

paper is used. Technically, the difference in structure, as opposed to the partial leather bindings with lacquer boards which were made with two pieces of leather, makes perfect sense. These bindings were made in the quickest possible manner, with a strip of leather over the spine-lining and onto the edges of the thin boards, then the decorated paper was pasted on top of the leather edges and boards.

#### 4.8 *Relation to content*

There appears to be one text that has a consistent type of covering, and that is the Qur'an. The corpus contains 28 Qur'anic manuscripts. Many of those are complete volumes, some of them are a set of two volumes and included are also a few selections of Qur'anic suras and *Juz'*. In 26 instances the manuscripts are bound in full leather and two complete volumes were bound with lacquer boards and leather spines. From these findings it seems that the partial leather binding type with paper covering the boards was considered to be inappropriate for Qur'anic manuscripts. Manuscripts containing Qur'anic texts combined with prayers, instructions of use, didactic stories based on the Qur'an or treatises on the art of Qur'anic recitation display a wider variety of binding types. Although full leather bindings appear to be preferential, several of these manuscripts have a partial leather binding with leather edges and paper panels covering the boards.

#### 4.9 *Boards*

Usually, the boards were made of paste-paper and when the core material is accessible, it appears that often wastepaper was used. Quite a large group of about 50 manuscripts have bindings with extremely thin boards, a practice that started at least in the early sixteenth century and was common in the seventeenth century. These bindings were modestly decorated, mostly covered in red or black leather, blind stamped, and often with doublures of fine marbled papers. The textblocks and endbands were neatly sewn, often with remarkably thin silk thread, and though many of these bindings were made without a flap, their appearance is utterly Ottoman. [fig. 176] The few bindings in this set with leather doublures instead of paper – giving a soft, tactile quality to these items – appear to be personal notebooks, and the occurrence of blank pages within the textblock suggests that these bound volumes were sold as blanks; see paragraph 4.4 above on limp leather bindings. The early bindings with very thin boards often cannot be localised; some of the colophons mention the Crimea or Dagestan, Macedonia and Palestine.

The use of thick boards seems easier to pinpoint. Most occurrences are related to Central Asia. Alternative materials are found in Southeast Asia. Instead of paste-paper, thick leather boards were used rather frequently, from at least the eighteenth century onwards, and a remarkable variant material consists of boards made of rattan or bamboo. [fig. 177] These long strips of plant material were woven into a sheet which was then used as boards (see fig. 78 in Part Two). When not visible because of damage, the woven structure is recognisable underneath the endleaf material. The direction of the woven strips appeared to be at a 45 degree angle in relation to the width and height of the boards in all instances.

Boards were flush with the textblocks until well into the eighteenth century. The introduction of square boards appears to be a Western influence, though the motivation to start using these extending boards is unknown. Square boards are found in Southeast Asia, sometimes combined with supported sewing which can also be related to European influence. They were also found on a late lacquered binding from the Indian subcontinent, and further west, in Turkey and the Maghreb. More than half of the manuscripts with boards extending beyond the textblock edges never had a flap.

## 5 Spine-endings

### 5.1 *Tabbed spines*

The technique of cutting the covering leather at the joint position in order to make the turn-ins over the board edges, which resulted in tabbed spine-ends, was used in all parts of the Islamic world and throughout the manuscript period. The earliest preserved examples date from the fourteenth, perhaps late thirteenth century and were made in Egypt or Syria. The most recent specimens are found on manuscripts from the first quarter of the twentieth century from Yemen and North Africa (the latter being Berber manuscripts). They were made on bindings of all covering types: 46% of the partial leather bindings have them still, 47% of the full leather bindings made in one piece, and even 53% of the full leather bindings made with the two-pieces technique. The occurrence of remarkable long tabs on manuscripts from Central Asia points to a possible regional interpretation of this feature. [fig. 178] The already mentioned fringed tabs from Xinjiang are an example of the same development. It seems that these region-specific characteristics developed quite freely in the peripheral areas. Tabbed bindings are rare in Southeast Asia; only five specimens were found. Three are believed to originate from Java, two of them are more precisely described to originate from Banten, Northwest Java, and one was copied in Palembang, South Sumatra, which hints at the use of tabs in a rather limited area within the Southeast Asian region. Three of these manuscripts were written, and presumably bound, in the second half of the eighteenth century, the other two are undated.

A few full leather, tabbed bindings have a thread tied lengthwise around the spine. A few others display traces of the former presence of such a thread. Together, they form a small cluster of connected bindings. Not all of the examples were included in the database and as some of these bindings are not contemporary with their content, the group can only be presented with a lot of caution. They seem to reflect a nineteenth-century development occurring in a peripheral region, attempting to secure endbands or bindings on manuscripts that were not in a sound condition, and which already lacked, for example, a link-stitch sewing and lining, and were resewn with a stabbed sewing structure. In two cases the leather tabs are secured in place with the vertically warped thread (when the book is in standing position) which also pierced the centre of the tab and was then inserted in textblock. [fig. 179] This procedure denies access to the endband underneath the tab, but it seems quite likely that a proper endband is missing in the case of these stabbed volumes.

### 5.2 *Cut flush with the textblock*

It is difficult to draw firm conclusions from the group of spine-endings cut flush with the textblock, except that they were not made with a turn-in of the covering leather over the spine. This detail is important though, because it points at a built-on binding technique – just like the tabbed bindings, as opposed to a case-binding. Yet, it remains uncertain whether these bindings were intentionally made with spine-endings cut flush with the boards, or if the tabs were trimmed over time, due to damage and in order to prevent further tearing; they may even look flush now because the extending leather completely abraded. [figs. 180, 181] Importantly, relative to the group of tabbed bindings this set is significantly smaller, not even a third of the first; the numbers indicate that the binding process which resulted in tabbed spines dominated the tradition. The frequent occurrence of tabbed repair spines supports also this theory.

With the spine-ends described as semi-tabbed, the extending leather at head and tail was cut horizontally though not exactly flush with the boards. This resulted in a tab significantly shorter in length than the average tab, which may be as long as the turn-ins on the inside of the boards. Nearly 40 examples of semi-tabbed structures were found on first bindings. Only three of these originated in the sixteenth century, the others are of more recent date. This is noteworthy, since the development of this particular feature may indicate

that binders anticipated the fragile state of the traditional tab, by cutting these parts of leather closer to the endband sewing, leaving enough to support the endbands and protect them a little, but short enough for the leather spine-ends to be more durable.

### 5.3 *Turned-in spine-ends*

Manuscripts on which the leather spine coverings are turned-in at head and tail form the smallest group by far. Nevertheless, the group can be further divided. Within the Arabic collection, the most distinctive set and largest in numbers are the wrapper bindings made for unsewn manuscripts. Although it seems very obvious that these wrapper bindings are made this way, it is also important, as it signifies – and quite convincingly proves – that binders used techniques most suitable for a particular purpose. Indeed, the method is a breach with the traditional method, however, since wrapper bindings are made off the book, as a case, turning in the leather continuously over the spine demonstrates common sense. It is not only the most economical but also the strongest option for this type of binding.

A second set originates from Southeast Asia. With the assessment of Southeast Asian manuscripts from the Arabic and Malay sections combined, this group consists of 42 specimens which is a significant part – more than half – of the total of Southeast Asian bindings. The feature is sometimes combined with square boards. Also, the turned in spines can be found with the two-pieces technique, which is remarkable. Indeed, it suggests these bindings were made as built-on bindings as well, for it would be difficult and impractical to produce a separate case-binding with two pieces of leather joined on the spine. Can we conclude from this that the bindings with the turned-in spine-ends were then made on the textblock as well? Technically it would be possible, as the absence of spine-lining flanges (which is another characteristic of most Southeast Asian binding structures) allows for turning in the leather at head and tail, without the need to cut such strengthening material in the joint. The evidence, however, remains inconclusive.

Of the remaining examples with turned-in leather at the spine, thirteen manuscripts are from the nineteenth century. Some of these volumes have turned-in spine-ends in combination with square boards, pointing to an increased influence of Western methods, although otherwise the bindings still display typical Islamic characteristics. Turned-in spine-ends were also found on three stabbed manuscripts, and on two very thin volumes that were made without endbands. In these cases it is feasible that the covers were made as a cassette-like entity.

## 6 Interior covering of the boards

### 6.1 *Doublures*

The doublure is defined as a material covering the inner surface of the boards, without it being part of the textblock's structure. As a consequence, the binder could freely choose what material to use: leather, cloth, or paper. [chart 7] Leather doublures were very common up to the seventeenth century. Of the 102 original occurrences, only fourteen were found on seventeenth-century volumes, three on manuscripts from the eighteenth century and four on nineteenth-century manuscripts. When the origin of the manuscripts was indicated, the leather doublures on volumes dated before 1700 were made in Egypt, Syria, Iran or Turkey. Only two of the seventeenth-century volumes with leather doublures were localised: Tunis and India; one of the eighteenth-century and two of the nineteenth-century volumes with leather doublures originate from India as well, and one nineteenth-century manuscript in this group was copied in upper-Egypt. Noteworthy, leather doublures were only found in combination with a full leather covering, though unrelated to the one- or two-pieces technique. None of the partial leather bindings had full leather doublures.

Cloth doublures were encountered only sporadically and form a heterogeneous group from which nothing can be concluded; some of the volumes are early, Mamluk bindings, but textile doublures were also used on a Berber manuscript (Or. 23.988) and on a volume written in Sino-Arabic script (Or. 26.685). The group of paper doublures is the largest by far. Repaired and resewn manuscripts excluded, the largest sub-group is formed by monochrome coloured papers, with 215 occurrences. Plain, undyed and undecorated papers were used 203 times, decorated papers such as marbled and block-printed papers were applied in 100 manuscripts. The majority of decorated papers are marbled, and they were made in a wide variety of patterns and colours. The earliest occurrence of marbled paper on an original, dated binding, is 1510, its provenance unspecified (Or. 1041). Before the development of the marbling technique, dyed papers were applied as doublures, the first occurrence in a dated manuscript is fifteenth-century. Some of the monochrome dyed papers were sprinkled with flecks of silver or gold. Block-printed and brocade papers were found in much smaller numbers [figs. 182, 183]; ten doublures were block-printed, for two volumes a brocade paper was used, and for one a coloured paper further decorated with a sponge pressing technique. The manufacturing techniques and possible origin of block-printing and brocade papers is elaborated on in paragraph 8 below.

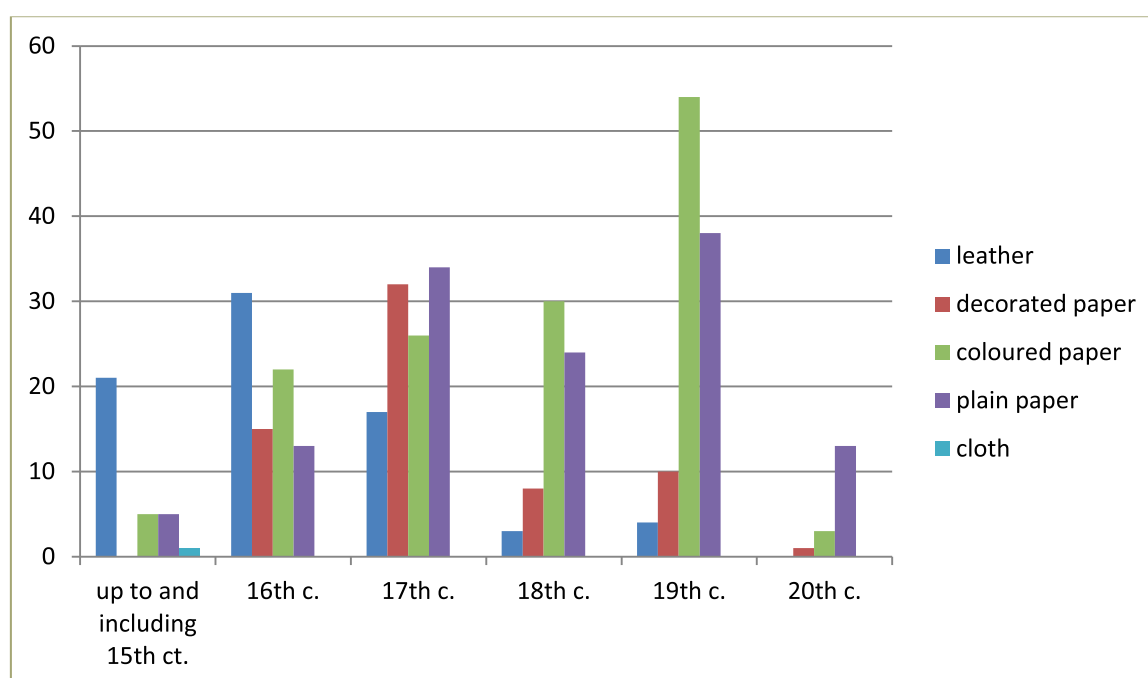


Chart 7. Comparison of doublure materials throughout the centuries, resewn and rebound manuscripts excluded.

## 6.2 *Endleaf structures*

When the paper on the inside of the board is part of the outer gathering, it is not a doublure but a paste-down. It often consists of the outer leaf of the first and last gathering. [fig. 184] Another form of endleaves is a tipped-on bifolio, pasted with a bit of adhesive along the spine-fold onto the gutter of the outer textblock page, and then the outer half is pasted onto the board. These endleaves may have been applied early in the production process, right after sewing, and before lining and endbanding, a practice some specimens attest as the tiedowns pass through the tipped-on endpaper bifolio. Either way, the paste-downs always cover the inner joint. When they are part of the outer gathering, the paper is usually plain, undyed paper, and the same goes for guarded leaves sewn with the first and last gatherings and used



Fig. 180. Or. 309. The small remnant of the tab and its horizontal tear demonstrate how prone the tab is to become 'flush'.



Fig. 181. Or. 2956c (nineteenth century). The cut shape of the leather follows the curved shape of the textblock and endband, which demonstrates its execution after the leather was applied onto the textblock spine.



Fig. 182. Or. 11.074. Brocade paper doublure on the front cover.



Fig. 183. Or. 1442. Brocade paper doublure on the back cover and the envelope flap.



Fig. 184. Or. 1196. The paste-down is part of the outer bifolio of the last gathering.



Fig. 185. Or. 11.898. A tipped-on coloured leaf with a stub. The stub is adhered over the joint and onto the board, and then covered with a doublure; in this case, a paper of the same colour was used.

as paste-downs. But when a tipped-on folio or bifolio was applied the binder often selected a dyed paper. [figs. 185-187]

Paste-downs were used at least since the early sixteenth century; six sixteenth-century manuscripts have tipped-on bifolios of which the outer half is pasted onto the boards, with eight others the outer textblock leaves were used as paste-downs. Nearly 30 manuscripts up to and including the seventeenth century were noted to have a structure different in the front from that in the back, and they all displayed the same kind of combination. At the front, a tipped-on bifolio or sometimes a stubbed folio was applied, while at the back of these manuscripts the outer leaf of the last gathering was used as a paste-down. This combination is not found the other way around, which gives us an indication of the working routine of the scribe and binder. The scribe started his work on the verso of the first folio of his stack of gatherings, which left him – or the bookbinder – no extra or preceding paper to use as an endleaf. Whereas once he finished the work and he ended up with some surplus leaves, they could be used as endleaves, after the lining flanges were adhered onto the inside of the board for strengthening the joints. It is noteworthy that in all these instances the lining consisted of cloth. It indicates that the binder chose his material intentionally, because with leather linings, tradition would have it that the flanges remained visible as inner joints. In these constructions, that would have been possible at the front of the binding but not at the back. Such examples, however, were not found.

Finally, it should be noted that the manuscripts from Southeast Asia often have *dluwang* endleaves or paste-downs instead of paper (in 31 instances in total), but the structures are comparable in technique.

### 6.3 *Inner joints*

The function and visibility of the spine-lining extensions in the inner joints has already been discussed; both leather and cloth linings were used to strengthen the board attachment, and leather extensions were left visible in the joint while cloth flanges were subsequently covered with some other material. Only when cloth extensions were not adhered onto the inside of the boards but were pasted onto the textblock instead, then the structure lacked an inner board attachment, and some additional material was added. Manuscripts constructed according to this last scenario are a minority in the whole corpus. Binders amended the inner joint structure in these cases with separate leather strips, with a stubbed leather doublure, or with a stubbed paper doublure. When a separate paper or leather strip was used as an inner joint, pasted on top of the doublure, it appeared to be a later addition in most cases.

The inner joints of lacquered bindings form a specific group, since the interior of lacquered boards are often painted; only once the surface is covered with a coloured paper doublure. As explained above, this composition affects the possibilities of construction. In general, the extending sides of the spine-linings of these textblocks appear to have been cut, and the board attachment consisted of the leather spine-covering only. For small bindings, of which the boards are relatively light, this construction seems to have been sufficient. With the larger textblocks and heavier boards we find repair materials in the inner joint.

### 6.4 *The lining of the fore-edge flap*

The strength and flexibility of the joints of the flap are crucial for its functioning and longevity. The large majority of the fore-edge flaps are lined with leather, throughout the centuries and in all regions of the Islamic world. The use of cloth clearly is a later development; only six seventeenth-century volumes were found that have a fore-edge flap lined with cloth, but from the eighteenth century onward its use increases. Ten eighteenth-century volumes, 30 bindings from the nineteenth and ten from the twentieth century have a cloth lining of their fore-edge flap. Not many of them are localisable but ten of these manuscripts appear to have been made in Yemen.

The use of paper as a lining-material for the fore-edge flap shows a similar trend. Furthermore, of the 77 occurrences, fifteen times the volume is an unsewn textblock and the binding a wrapper binding. Nine bindings from Southeast Asia have a paper lining of the fore-edge flap and three of the bindings appear to have been made in Yemen. Of nine of these bindings with a paper lining, the paper covers only the actual fore-edge flap core; the joints adjacent to this flap were lined with leather prior to the application of the paper lining, which can be explained because it is a more durable material for this flexing part of the binding.

## 7 The envelope and fore-edge flap

Although bindings without fore-edge and envelope flap only start to become fairly common in the seventeenth century, they appear on the scene in the sixteenth century. The earliest specimen is found on a volume dated 1510 (Or. 1041), a few bindings without a flap are dated in the middle of the sixteenth century. Up to now, the flapless binding type was often related to the Persian realm, which is probably due in part to the fact that many lacquer bindings were made without a flap and they initially developed in Persia. Otherwise, they are thought to have emerged under Western influence in the 'later' centuries.<sup>46</sup> However, the oldest flapless bindings in the UBL collections are early Ottoman, and Islamic in every characteristic. They are relatively often made with very thin boards; occasionally, boards are even completely absent. The manuscripts of oblong format, which often lack a flap as well, are another specific category. Many of the dated manuscripts without a flap originate in Central Asia, where a strong influence of the Persian tradition is found. Their dates are mainly eighteenth- and nineteenth-century. It should be noticed that the boards of these particular bindings are often remarkably thick, which distinguishes them from the Ottoman variant. In Southeast Asia, only three bindings without a fore-edge flap and envelope flap were recorded, which is 4,5% of the Southeast Asian bindings, while the percentage of flapless bindings in the whole corpus is 17.5%.

At first glance, the general belief that the flapless binding occurs most often in the undefined 'later' centuries seems to be attested by the findings: 31 nineteenth-century manuscripts have bindings without a flap, which is 24% of the total number of dated volumes from this period. In the eighteenth century, 22% of the dated volumes were made without a flap. However, looking at the seventeenth century we find 26 volumes in original bindings which represents 21% of the total, and even from the sixteenth century six bindings have no trace of a flap. Though this is only 1% of the dated sixteenth-century manuscripts, these items attest the normality of manuscripts without a flap in relative early centuries. These figures also indicate that from the seventeenth century onwards, more or less one of every five manuscripts was put into a binding without a flap. Nevertheless, some of the flapless bindings from the nineteenth century indeed share a few other characteristics with Western books, such as the boards projecting beyond the textblock edges, the spine leather being turned-in, or a supported sewing. At the same time, these bindings convincingly display Islamic features; most of them have a link-stitch sewing, the endbands often remain traditional, and many boards are still flush with the textblock.

The wrapper bindings were made, without exception, with a flap, and for good reason. As a wrapper binding protects unsewn manuscripts, it functions as a protective container; since the gatherings are not attached to the wrapper's spine they could easily become dislocated. A closing system at the fore-edge of the stack of loose gatherings, afforded by the

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<sup>46</sup> “[The flap] remained an intrinsic feature of Islamic binding until the fore-edge and associated envelope flap started slowly to be omitted under the influence of European bookbinding forms in the eighteenth century A.D.”; G. Bosch et al., *Islamic bindings and bookmaking* (1981), p. 56. See also F. Déroche, *Islamic codicology* (2006), p. 310; A. Gacek, *Vademecum* (2009), pp. 27-28.

envelope flap, was needed for stabilising the textblock during consultation and storage, to minimise the risks of mechanical damage.

In the literature it is often suggested that the flap, apart from its protective function, can be used as a bookmark.<sup>47</sup> It is unclear where this idea originated and if envelope flaps were really used in that capacity; the historic sources do not contain any remarks on this use of the flaps. When the fore-edge flap fits the fore-edge of the textblock nicely and both flap parts have rigid boards – as most flaps do – then the joints are small and do not provide the flexibility for the envelope flap to be inserted everywhere in the textblock. Only when the joints are exceptionally wide or the core in the fore-edge flap is very small can the flap be inserted in the textblock more or less randomly. Although such features are occasionally encountered they are not common, which seems to indicate that binders did not attempt to make flaps with this functionality.

A second argument is the occurrence of bindings with fore-edge flaps that have a smaller width than the thickness of the textblock and no space in the adjacent joints to compensate for this narrowness. These flaps are too small to cover the fore-edge of the textblock completely. In these instances, the envelope-shaped flap cannot even be closed underneath the front cover, but has to be inserted somewhere partway through the textblock. With these objects it is clear that the bookbinder did not intend for these flaps to serve as bookmark.<sup>48</sup>

## 8 Miscellaneous features

### 8.1 *Decorated paper*

A variety of decorated papers are found in Islamic manuscripts. They first occur in textblocks; the use of tinted or dyed papers is very old and seems a logical continuation of the practice to write texts on coloured parchment. From the fifteenth century onwards papers were decorated with more elaborate techniques such as silhouetting, stencilling and gold-sprinkling, and possibly also marbling.<sup>49</sup> Apart from the ones used in the textblocks, coloured and embellished papers were applied to cover the binding and finish the inside of the covers. It is difficult to find conclusive evidence for their origin and dating, as many of the manuscripts from these early centuries are repaired or re sewn. Moreover, when applied as doublure or board covering on partial leather bindings, the papers were adhered as a final action, which means that it is sometimes hard to detect whether the paper originally belongs to the bindings or was added later. Monochrome dyed and marbled papers are found on the inside and outside of covers alike, gold-sprinkled papers appear to have been preferred for the inside of bindings and in the UBL collection no examples of silhouette papers were found on bindings, though they do occur in textblocks. When block-printed papers start to be used, they are more often found as doublures, but occasionally they were applied as a covering material as well. [fig. 188]

The Islamic artists who produced marbled papers used wonderful colour combinations and wild patterns. The earliest marbles, however, were probably more subdued.

<sup>47</sup> Gacek states that “its principle function was to protect the fore-edge of the codex; nevertheless, it was also often used as a bookmark”, *Vademecum* (2009), p. 104; See also Chr. Gruber, *The Islamic manuscript tradition* (2010), p. 15, who suggests that the flap can be either used as a bookmark or it can be tucked underneath the textblock so that it is slightly elevated which might improve reading.

<sup>48</sup> At the COMSt-meeting (Comparative Oriental Manuscript Studies) in Zakynthos, October 2013, Paul Hepworth in his lecture ‘Manuscript variety and conservation’ presented several examples of original bindings with remarkably small and rigid fore-edge flaps which cannot have functioned as a bookmark or reading aid. His most important argument was for conservators to respect these shapes and not to be inclined to change such flaps by assuming that they ought to fit.

<sup>49</sup> F. Déroche, *Islamic codicology* (2006), pp. 60-61 and 248-249.



Fig. 186. Or. 155. A guard - a small strip of paper folded around and sewn with the last gathering - is pasted over the inner joint. The paper doublure is pasted over the edge of the guard.



Fig. 187. Or. 829 (1638). A plain, stubbed leaf was tipped-on along the spine edge of the outer gathering, the stub pasted over the joint and onto the board. A marbled doublure is pasted over the stub.



Fig. 188. Or. 1341. A partial leather binding with block-printed paper.



Fig. 189. Or. 11.074. A brocade paper doublure, using up smaller pieces, one of which contains provenance information on the decorated paper.



Fig. 190. Or. 2149 (before 1874, Southeast Asia, probably Java). A manuscript with a dluwang textblock and dluwang endpapers; an impregnating agent was applied to the paste-down, causing its dark brown colour.



Fig. 191. Or. 2118 (Southeast Asia). The endband displays various characteristics: a twig core and decorated cloth strips which are used as tufts, it is sewn in three colours and one of the threads is wrapped around the finished endband.

Some twenty specimens were found of a modest type of marbled paper, using only blue pigments on a cream-coloured paper. Their patterns resemble the veins found in stone, and in that sense these patterns appear less controlled or designed than the multiple coloured marbled papers. It seems that these papers are the products of the art when it was first developed. However, none of these monochrome blue marbled papers were found on original bindings, they were used as doublures or outer board coverings on second bindings of much older manuscripts. As a consequence, the hypothesis that these are the earliest products cannot be proven. The earliest evidence for marbling known are two sheets of paper, in the Kronos Collection in New York City, of which one is dated 1496; they were made in Persia.<sup>50</sup> The first marbled paper on a dated contemporary binding in the UBL dates 1510 (Or. 1041), and this paper is an example of a multi-coloured, finely executed and controlled marbling pattern.

Other types of decorated papers are block-printed papers (also called ‘chintz’ or ‘calico’, after the block-printed cotton from India), brocade papers (sometimes referred to as ‘embossed’ or ‘gold-embossed’ papers), and paste papers. We know as yet very little of the origin of these papers. There are several extensive inventories and studies on decorated papers, but most of them focus on papers produced in Europe, and when the Islamic world is mentioned the information is brief and without much concrete substance.<sup>51</sup> In general, Persia or Turkey are acknowledged as being important for the development of marbling techniques; several references in travel accounts attest the occurrence of the art of marbling in the Middle East in the sixteenth century.<sup>52</sup> However, with the exception of a few methods for “beautifying paper” with a single colour, mentioned by Ibn Badis,<sup>53</sup> and a mid-nineteenth-century copy of a medieval manuscript containing some paper dyeing recipes,<sup>54</sup> little historic documentation is known on the origin and making of the decorated papers in the Islamic world.<sup>55</sup>

In Europe, the block-printed papers, made with wooden or metal blocks in which patterns had been cut and inked with one or more colours, were made at least from the seventeenth century onwards. Italy was a major production centre for this type of decorated papers and it seems likely that papers of Italian origin were exported across the Mediterranean Sea. According to the seventeenth-century traveller and author Evliya Çelebi (1611-c. 1684), who described the professions and trades in Istanbul, there existed 205 paper dealers, who used papers from Persia and Venice to adorn their shops.<sup>56</sup> Assuming that decorated papers were used for this purpose, this would be a contemporary source reporting

<sup>50</sup> Jake Benson, currently undertaking studies in the early development of the art of marbling, kindly answered my query about the earliest evidence for marbling in detail. He translated the inscription on one of these marbled sheets, part of which states: “Note that these *abris* (the plural form of *abrī* was used) are rare” and he elaborated that accordingly, not only are these papers the earliest dated marbled papers known but they also carry what is thought to be the earliest mention of the Persian term *abrī* (meaning ‘clouded’ or ‘cloudy’); e-mail exchange 14-04-2014. Benson presented part of his research at the Historians of Islamic Art Association biannual symposium, October 2012. <http://www.metmuseum.org/metmedia/video/collections/isl/looking-widely-looking-closely-symposium-part-9> (accessed 15-04-2014).

<sup>51</sup> On marbled paper, see: R.J. Wolfe, *Marbled paper, its history, techniques, and patterns* (1990), pp. 6-12. Wolfe mentions reports on the art of marbling practiced in Turkestan in the late thirteenth century and in Samarkand, Herat and other regions east of Persia in the early fourteenth century, p. 8.

<sup>52</sup> J.F. Heijbroek and T.C. Greven, *Sierpapier. Marmar-, brocaat- en sitspapier in Nederland* (1994), p. 14.

<sup>53</sup> M. Levey, *Mediaeval Arab bookmaking* (1962), p. 40.

<sup>54</sup> H. Ebeid et al., ‘A study of dyed endpapers during Islamic mediaeval times in Egypt: purpose, materials and techniques’ (2013), p. 62. The historic source is as yet unpublished; the nineteenth-century copy is kept in the Dar al-Kutub in Cairo.

<sup>55</sup> See the chapter on decorated paper by Yves Porter, *Peinture et arts du livre* (1992), pp. 41-60.

<sup>56</sup> Evliya Çelebi, *Narrative of travels in Europe, Asia, and Africa, in the seventeenth century* (1834), p. 206.

on the import of either marbled or block-printed papers from Venice.<sup>57</sup> The production of block-printed papers continued until the end of the nineteenth century, but whether they were ever made in the Islamic world as well is as yet unknown.

Starting early in the eighteenth century, the chief production centre for brocade papers was Augsburg, Germany, where several manufacturers were active, though brocade papers were made in various other German towns as well. Farther south, in Bassano and Venice, the family firm Remondini was the major manufacturer of brocade papers.<sup>58</sup> It seems likely that the Italian papers were exported in larger quantities than the German ones, though within Europe there was a lively trade in decorated papers, and examples of German brocade papers on original Islamic bindings were found in Islamic manuscripts. [fig. 189] On the other hand, would it not be possible that the technique to make brocade papers – involving the use of a copper or messing plate and a press to print the image with metal leaf on a dyed paper – was used in the Middle East as well? The original inspiration for the usage of contrasting metal in the design appears to be found in Byzantine textiles, using metal threads. In Islamic textiles, we can find complex woven textiles with metal threads throughout their medieval history. With many other decorative techniques found in Western books we have seen that the Near East played an important role in their development and transmission. However, until proof of possible Islamic production is found, we must assume that these specific papers originated in Italy or Germany, which provides a production date between the early eighteenth century and the middle of the nineteenth, when the making of brocade papers ceased.

The comparison of decorated papers, used for doublures or the outer covering of the bindings, with samples in reference books may offer more precise information for the dating of specific volumes. For example, the undated manuscript Or. 11.074 has a particular decorated paper, with a gold printed chessboard-like pattern over a green ground. [fig. 189] The bottom margin of the original papers often contained information on the manufacturer, which in this case can be found on a piece of the paper pasted adjacent to the joint: “Augsburg bey Johannes Wu[...]”. This paper is closely related to an example which is dated 1790, made in Fürth by Johann Lechner, and to papers made by Johann Hoffmann and Paul Reymund in Neuremberg.<sup>59</sup> Assuming the manuscript was bound shortly after copying, this indicates its production in the early nineteenth century.

## 8.2 Page-markers

Although this particular element is small, it is an interesting codicological aspect because it indicates which pages were singled out for quick access. Many of the UBL manuscripts with page-markers do not contain illuminated or illustrated pages; the page-markers are mainly secured to pages of text. Often these manuscripts are composite volumes, on a variety of topics, such as religious doctrine, dream interpretation, food and medicine, and lexicographical works; dictionaries, collections of poetry and encyclopaedias were also found.

The many occurrences of the silk thread knotted type, skilfully applied in manuscripts originating from throughout the Islamic world and a certain consistency in the manner of their attachment, do suggest that this element was applied by binders rather than their owners. The textile page-markers, consisting of a silk or linen thread looped around the margin and edge of the text page, occur in other binding-traditions as well.<sup>60</sup> Of the 29 volumes with page-markers, only one is of fairly recent date, 1803, probably originating from

<sup>57</sup> I have referred to Evliya Çelebi’s full report on the bookmaking industry in: A. Vrolijk, J. Schmidt and K. Scheper, *Turcksche boucken* (2012), p. 163.

<sup>58</sup> Heijbroek and Greven, *Sierpapier* (1994), pp. 153-154; M. Cloonan, *Early bindings in paper* (1991), p. 83.

<sup>59</sup> Heijbroek and Greven, *Sierpapier* (1994), pp. 58, 106 and 124.

<sup>60</sup> J. Miller, *Books will speak plain* (2010), p. 207. In the UBL special collections, an example was also encountered on a Greek text written on parchment, containing multiple (linen?) knotted threads in the fore-edge margins; UBL BPG 78.

Kashmir. It concerns an illustrated romantic poem, Yusuf and Zulaikha, and the page-markers are connected to the illuminated pages. All other manuscripts with fixed page-markers have much earlier dates, with 1619 as the latest.

### 8.3 *Size and format*

Only ten manuscripts are oblong shaped; usually, the shape of the codices is a vertical format. With some volumes the vertical shape is more pronounced or downright elongated, while others approach a square format. In order to compare differences in format, the ratio of height and width can be expressed in a single number, obtained by dividing width by height.<sup>61</sup> When the oblong volumes are excluded, the average ratio is 0.71; the average ratio of the oblong bindings is 1.83. When the re sewn manuscripts are left out from this calculation the average ratio of the regular book format becomes 0.70, while the average ratio of all repaired and re sewn manuscripts remains 0.71. This difference is fractional, which is noteworthy, as it indicates that repaired and re sewn manuscripts did not often, or at least not substantially have their edges cut after sewing. Had that been the case, then the cutting of head and tail edge would have caused a larger difference in the height than the effect of cutting of the fore-edge would have had on the width of the book, assuming that a binder cut more or less the same amount of paper from each edge. Thus, one would expect a slight shrinkage of the height in relation to the width, in comparison with the original format, resulting in an opposite effect on the ratio number: the small loss in height would lead to a slightly higher number than 0.71, the average for all manuscripts.<sup>62</sup> Since this is not the case, it seems that binders often refrained from cutting the textblock after re sewing, or they did it in such a way that the width of paper they cut from the fore-edge was in balance with the total they cut from head and tail, motivated perhaps by the fact that most annotations and glosses were written in that particular margin which made them more prone to being partly chipped off when the edge was trimmed.

For the earliest centuries no trend can be discerned. When we consider ratios below 0.61 to be elongated, and over 0.81 compressed, we find only a few outsized manuscripts from the centuries up to and including the fourteenth. Three are elongated and two are relatively short, while 75 have a more or less average format. In later centuries, it seems that Central Asian manuscripts and those from the eastern Middle East are more elongated – with an average ratio of 0.64 – and Maghribi manuscripts tend towards a more squarish format, though elongated volumes from Tunis and the Levant were found as well. The number of dated and localised manuscripts from North Africa is too small, however, to interpret these findings further.

The horizontal, or oblong format was first used for eighth- and ninth-century Qur'ans, which were written on parchment; by the end of the ninth century the shape gradually changed and the vertical shape became the dominant format.<sup>63</sup> The oblong manuscripts in the corpus are all of the later type, often referred to as a *safīna* format. *Safīna* is Arabic for 'ship', which probably refers to the horizontal shape. The script in these items is usually parallel to the direction of the spine, that is, the short side of the textblock. Hence, to read the volume, it has to be turned 90 degrees clockwise from a usual orientation. The *safīna* format seems to be

<sup>61</sup> I would have preferred to use the formula the other way around, because the general format of books is vertical, or portrait format, which means that when comparing the ratios, diverging values stand out a bit more when length is divided by width. However, in Western book-historical and codicological studies, the standard appears to be to divide width by length, even though the common Western book format is vertical as well. Presumably it is held as an advantage that the calculation results in a value between zero and one (provided that the book format is vertical and not horizontal), which allows for a relative easy rating of objects.

<sup>62</sup> This average appears to be in accordance with the Western manuscript's average ratio after the tenth century, see: E. Kwakkel, 'Dit boek heeft niet de vereiste breedte' (2012), p. 35.

<sup>63</sup> A. Gacek, *Vademecum* (2009), p. 34.

small enough to carry around as it has thin or no boards, resulting in a flexible and lightweight book.

Five manuscripts had such a strongly rounded spine that the condition was explicitly remarked on. In two of the historic treatises the making of rounded spines is advised; al-Ishbili and al-Muzaffar suggested it will prevent deformation of the textblocks. In that light, five examples do not make a strong case for frequent rounding of the spine, but it appears extremely difficult to tell the original shape of the textblock spine from its current physical condition. Many volumes have changed shape, become distorted, warped or concave, and a rounded spine presumably best kept its original shape if a robust sewing thread was used to support that form. This seems to be the case most frequently in parts of Central Asia and Yemen and for Berber manuscripts.

## 9 Southeast Asia as a sub-category in the Islamic tradition

Above, we have looked at the varieties and differences in Islamic bindings from the technical, manufacturing point of view and in relation to date of occurrence and provenance. From this diachronic approach, trends emerged: certain variations belong to specific periods or regions. Southeast Asia stands out as the region with the most distinctive variant of the Islamic binding tradition. This warranted the additional survey undertaken in the collection of Malay manuscripts in the UBL. To fit into the Islamic tradition, the following selection criteria were identified: the script should be Arabic, the binding a 'native', non-Western binding, and its condition reasonably sound or at least accessible with regard to composition. Thus, 29 items were selected from the "Malay" section. Below, the results from their examination are combined with the observations made of the 39 manuscripts from the "Arabic" section which could be retraced to Southeast Asia.<sup>64</sup> Recapitulating some of the findings in this manner, some reiteration is unavoidable; however, together they represent the Islamic binding tradition in the east, from the seventeenth century onwards.

Although unmistakably rooted in the Middle Eastern binding tradition, this group as a whole displays distinctive characteristics. Furthermore, within the group, different sets can be distinguished based on further variations. Unfortunately, not many of the manuscripts can be localised precisely; as a consequence, any attribution of specific features to certain regions is cautiously based on a limited amount of data.<sup>65</sup>

With regard to the structure of Southeast-Asian manuscripts, however, it is safe to conclude that the sewing scheme distinctly differs from those made in other parts of the Islamic world. None of the almost 70 items was sewn with the traditional link-stitch sewing on two stations. Based on these results it seems that a presence of the predominant sewing scheme would rule out a place of manufacture in this region. The largest part of the group consists of a link-stitch sewing on multiple stations, often five, with the thread passing continuously inside the spine-fold, so it can be easily distinguished from the link-stitch on

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<sup>64</sup> In the UBL collections, Arabic manuscripts from Southeast Asia are shelved with the Middle Eastern manuscripts (the "Ar." category). Southeast Asian manuscripts in all other languages are shelved in the "Mal." category. See also Part Four, paragraph 1.3.

<sup>65</sup> It is rare for manuscripts from Southeast Asia to contain a colophon in which a date or place of completing the manuscript is included. Therefore, other clues are needed to localise these volumes. Marije Plomp studied almost 30 traditional bookbindings from Indonesia and distinguished several categories, related to regions. M. Plomp, 'Traditional bookbindings from Indonesia. Materials and decorations' (1993). In addition, decorative aspects of illuminated religious manuscripts may help to pinpoint the place of origin, see A. Teh Gallop, 'An Acehese style of manuscript illumination' (2004) and 'The spirit of Langkasuka? Illuminated manuscripts from the East coast of the Malay Peninsula' (2005). Another material aspect is the use of *dluwang*, which is thought to be used in Java and Madura only.

four stations. Six volumes were sewn on leather supports, four of these are dated, all of them nineteenth-century, and two are localised, both in East-Java. Two textblocks were stabbed. Unsewn structures with connective strips and wrapper bindings were not encountered.

Furthermore, with regard to sewing it seems that full dluwang textblocks were sewn more often with the knotted link stitch than the paper textblocks. Dluwang textblocks have dluwang endleaves or doublures, while paper textblocks have the inside of their boards covered with either paper or dluwang, and sometimes leather. More or less half of the items have a dluwang inner board covering. Whenever the impregnating agent (persimmon fruit juice or a similar fluid) was used, it was with dluwang endleaves. [fig. 190]

The large majority is bound in full leather, and the ratio of one piece to two pieces of leather is more or less 3 to 1. The absence of information on origin hampers identification of the different techniques, however, the four bindings with Bantenese provenance (Northwest Java) were all made with the two-pieces technique. These bindings stand out because of their decoration pattern as well; Marije Plomp described the tooling to be similar to Turkish/Persian style bindings from the seventeenth century onwards.<sup>66</sup> One of these bindings is even more particular as it is bound in a bright red leather, resembling cochennille-dyed alum-tawed leather. With regard to the application of the leather cover, it is interesting to note that the seven or eight other manuscripts from Java – a few of them said to originate from the eastern part of the island – all have one-piece full leather bindings except one.

No partial leather bindings occur among the Southeast Asian manuscripts. Only a few bindings are not covered in leather but in cloth (Or. 4710), dluwang (Or. 8566) or paper (Or. 1895 and Or. 7325); what distinguishes them from bindings made in other parts of the Islamic world is that these covering materials are not combined with a leather spine: they are fully made of the cloth or dluwang or paper. Furthermore, the two paper covered bindings (one in blue, the other in crème coloured paper) are decorated with stamps as if they were leather bindings. Noteworthy, the blue paper binding, from Palembang, was even made with the two-pieces technique (Or. 1895). The dluwang and cloth bindings were impregnated with an agent – possibly persimmon juice – which made it resemble leather.

Tabbed spines are found with a minority of volumes, and only on the items made with the two-pieces technique, which is technically logical and confirms the theory of mounting these separate boards on the textblock one by one. Most bindings, however, have turned in leather spines. The covers with the spine-ends turned-in may have been made as case-bindings, there is no evidence that these bindings were built on the textblock. However, there is also no proof that they were made as case-bindings.

Southeast Asian manuscripts have paste-downs far more often than other Islamic books. The use of marbled paper was not encountered, and if monochrome dyed paper was used for doublures, it seems that blue was the only available variant; in one volume brocade paper was used (Or. 18.959). Plain paper and dluwang endleaves are frequently found, leather doublures only seem to have been used on the bindings in which the decoration resembles the traditional tooling schemes, with a centre stamp and corner pieces. These are the Bantenese bindings and they are dated late seventeenth or early eighteenth century.

The endbands on the Southeast Asian manuscripts display the most distinctive divergences. They can be sewn with three colours, they are more often fringed than not, they can have twigs or cloth strips as cores, and they are sometimes ‘tied around’. One example was found to have all those characteristics, even a combination of twig and textile core, with the strips of decorated cloth extending as a coloured flag among the fringes of the secondary endband sewing thread. [fig. 191] Moreover, only one example of an endband was found that had none of these features, but was made exactly like a traditional endband. Again, due to missing provenance data it is difficult to pinpoint the characteristics to precise regions. However, Bantenese manuscripts (Northwest-Java) were consistently provided with endbands

<sup>66</sup> M. Plomp, ‘Traditional bookbindings from Indonesia’ (1993), p. 581.

without fringes or a tied around thread; instead, three of them display a remarkably firm chevron sewing with rather thick thread and four sewing tours only on a distinct round core (not a flat core as is typical for Islamic endbands), and one has a distinctive endband that appears to be sewn with one thread only. The twig endband cores were often found on manuscripts from Java (four times) and once on an Aceh binding. The secondary endbands in three colours also appear to be typical for Javanese bindings, with six specimens; only once was an endband sewn in three colours found on a manuscript with a different localisation (Aceh).

Some of the Southeast Asian bindings have boards extending beyond the textblock edges, but the bindings of the majority are flush with the textblock. The occurrence of leather boards appears to be an exclusive feature of this region, and the same seems to be true for the matted or woven rattan or bamboo boards. Perhaps these materials were chosen because their capacity to resist insect and mould infestation was higher than that of pasteboards, the latter being vulnerable to the influences of the humid and warm climate. In addition, paper may have been scarcer in Southeast Asia than in other parts of the Islamic world. There was no local paper industry, though *dluwang* was the indigenous substitute; all the required paper was imported from elsewhere. This would certainly have ruled out the option to make pasteboard out of new paper, but even waste-paper may not have been available in such quantities as in other regions within the Islamic world to allow for pasteboard making on a sufficient scale.

The precise attachment of the boards remains uncertain. Though most textblock spines were lined with multiple layers of diverse materials, resulting in thick and rigid spines, there is little evidence that these linings were used to strengthen the board attachment. Primarily, they serve to support the textblock spine and prevent the tiedowns from tearing through the paper or *dluwang*. Given the high occurrence of leather turn-ins at head and tail of the spine, it is possible that the bindings were made as case-bindings, though that evidence is not conclusive, as we know that Western leather bindings were made on the textblock with turned in spine-ends (the so-called caps) for centuries. Moreover, tabbed spines and the two-pieces technique were also found. Regardless of the method, and in the possible absence of lining flanges, the endleaves at least perform a strengthening function on the inside of the boards.

One manuscript raises another intriguing question, concerning the order of writing and binding. In this case, Or. 2118 – Mal. 408, a history of the Prophets in verse, the text is not finished. To quote from the *Inventory*: “The end is abrupt. The latter (and greater) part of the codex is left blank because the treebark paper was crumbling”.<sup>67</sup> This suggests that the gatherings were bound prior to copying the text, otherwise, the binder would not have troubled with sewing the crumbled gatherings. It is intriguing, because that would be contrary to the generally accepted idea that gatherings were only sewn and bound after the text was written.

## 10 Summary

The history of the Islamic bookbinding tradition starts in the early centuries of Islam, when Qur’anic texts were written on oblong shaped pieces of parchment which were bound and covered in order to enable usage and protect the text at the same time. The covers themselves became vehicles of artistic expression; the structure remained the backbone of the artefact, the indispensable, not very visible but crucial mechanism allowing the manuscript to be used for decades, if not centuries. From the survey results it has become clear that there is an archetypical structural make-up for the Islamic codex. It consists of a link-stitch sewing

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<sup>67</sup> J.J. Witkam, *Inventory*, vol. 3 (2008), p. 43.

structure, a spine-lining and a primary endband sewing. This basic principle, however, left room for several technical variations; the differences are hard to detect from the outside and the binder may have had his own particular reasons to apply certain variations, though some structural divergences can be related to specific regions or periods. Over time, and moving away from the heartland of Islam, the variability increased and more distinctive binding characteristics emerged, such as the link-stitch sewing on multiple stations in Southeast Asia and the saw-cut primary endband in the south Arabian peninsula.

The earliest manuscripts were bound in full leather, and full leather has remained the most important covering material throughout the ages. The two-pieces technique appears to have been used from very early on, and until the nineteenth century this covering method was at least as common as the one using a single piece of leather. On a more detailed level, interesting variations were found within the group of full leather bindings. There are limp leather bindings, possibly used as temporary coverings, and composite full leather bindings, made with turned-out doublures or as a kind of *çaharkuşe* technique. Further seemingly regional particularities were noticed in the physical appearance of many full leather bindings. These decorative elements or aesthetical aspects were not included in this study, so no coherent conclusions can be drawn in this respect, but the types and quality of leather, stamping patterns, other decorative techniques such as painting or dyeing the covering leather and the application of paper cuttings may be potential additional sources of information.

Significant differences in covering methods can be found across the regions. In Ottoman times, the partial leather binding became very popular and this covering scheme could be used both as an economising option, as well as for binding luxurious items. In Central Asia too it seems that the partial leather binding rivalled the full leather binding. Here we find especially glossy papers on the cover panels, and many of the partial leather bindings have leather overlays in contrasting colours. Further east, full leather bindings were favoured. In Southeast Asia the partial leather binding does not occur, although a few specimens were encountered that were covered with *only* paper or *dluwang* and decorated with stamps in such a manner that they resembled full leather bindings. It appears that full leather bindings remained important in all peripheral regions, nor were examples of lacquer bindings found in these regions.

Material characteristics can be further used to localise bindings. Apart from regional specific materials such as *dluwang*, it appeared that the use of leather as a board material only occurred in Southeast Asia. The same seems to be true for the boards of plaited plant fibre. Twigs, or strips of coloured textile used as endband cores, point strongly to Southeast Asia as well, as does the use of three colours in the secondary endband sewing and the occurrence of fringed endbands. Very long tabs were mainly found in Central Asia, as well as thick boards and rounded spines. Bindings without flaps cannot be confined to a certain region or period; they appear to be an integral part of the traditional binding vocabulary, at least from the early sixteenth century onwards, though they occur far less often than bindings with fore-edge and envelope flaps. Unsewn textblocks with connective strips and wrapper bindings were only found on manuscripts dating from the second half of the eighteenth and the nineteenth centuries. With regard to format, when manuscripts are elongated they appear to originate from Iran or Central Asia, while square-ish manuscripts are likely to be produced in the Maghreb.

This overview confirms that the physical characteristics contain much information and provide clues as to the provenance of manuscripts, the potential of which is not exhausted yet. It also attests to multiplicity within the Islamic tradition. The importance of this multiplicity for an understanding of the Islamic book culture – which, in fact, it fundamentally changes – is elaborated on in the next, conclusive Part.

