Book I from the collection of Arabic manuscripts from the Historical Archives of the Province of Málaga: An example of al-Andalus binding

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This work begins with a brief outline of some important historical facts which affected our specific area of research, followed by a description of special features observed in our study of al-Andalus Islamic manuscripts when compared to the traditional methods and materials used in Islamic bindings. One such example of an al-Andalus manuscript is ‘Book I’ from the Historical Archives of the Province of Málaga (L-14029, Libro 1º, ‘Libro de oficio del alfaquí Muhammad al-Yayyar’), which we chose for analysis since we considered it representative and of particular interest.

This article is part of a research project, ‘New analytical technologies for the understanding of materials and production techniques in al-Andalus Arabic manuscripts’ (CTQ2005-07717), supported by the Spanish Ministry of Education and Science. The researchers involved in this project, using analytical techniques, study the methods utilised in the production of these documents.

Historical background

From the eighth to the fifteenth centuries, the Arabs settled in the Iberian Peninsula with their own social, cultural and political structures. It was a period when science and culture flourished and developed tremendously within the territory known as al-Andalus. This was due in large measure to the widespread production of books with specific characteristics.
During this epoch, when the Catholic Kings of Castile and Aragon persecuted the Arabs, the majority of these books were burnt or damaged and the population was forced to become Catholic. Fortunately, some libraries were relocated and hidden, which meant that some of these books were saved.

New papermaking and binding techniques appear in the manufacture of these codices. Through the study of the materials and techniques utilised, we have been able to determine criteria and treatments necessary to prevent further deterioration. The materials are used in a different way from those used in Western documents. Comparative studies allowed us to identify the typology of these documents and the development of several techniques used by calligraphers, scribes and binders. The documents we analysed show codicological and structural binding characteristics which differ significantly from those of other Islamic or Western manuscripts, yet which still maintain elements of both. We call this ‘al-Andalus binding’.

Al-Andalus bindings

By contrast with the traditional Arabic loose-cover binding, we see an interesting peculiarity in the way these manuscripts are put together. In all cases, the fabric used to strengthen the spine is made of either linen or hemp which extends across the first and last gathering and acts as a covering for the inner covers, thus forming part of the make-up of the book itself, by being stitched to the body of the book through the endbands. It is also pasted to the covers and the inside of the envelope flap, after which leather is applied and folded over the fabric, remaining visible and sometimes decorated around the edges with a double fillet. The use of this fabric, either natural or dyed, is striking when compared to the materials more typically used in this process (leather, paper or silk fabric).

Some of the examples found in different Spanish collections are:

- A Koran dated to the late fifteenth century from the library of the Escolapian Priests in Granada.¹

This is the last of three volumes, encompassing the 38th to the 54th (and last) sura, in their entirety. The name of the scribe, the
date and the site of production are not to be found, though perhaps they appeared in the first volume, which has been lost. The stylistic and technical characteristics, together with certain chronological data found in the pasteboard used for the covers, date it to around the mid-fifteenth century. The writing is Maghrebi, of al-Andalus design of the mabsut type, with clear, precise punctuation and red vocalisation. Its titles are in kufic lettering, simple and uneven, ochre in colour and with neither punctuation nor vocalisation.

- From the Sacromonte Abbey Collection of Arabic manuscripts in Granada.²

We analysed two manuscripts, namely book 16, ‘Grammar, by Ibn al-Fajjar al-Bayri, Sarh al-Ýumal fi l-nahtwi’ (890 H./1485 C.E.), and book 20, ‘Treatise on Medicine, by al-‘Aynazarbi, Kitáb al-kāfi fi l-tibb min al-qrn ilà l-qadam’ (702 H./1302 C.E.). In this regard it is worth noting that book 2, ‘Mujta-ar Al-Ýayn (Lexicology) by al-Zubayd (399 H./1008 C.E.), now restored, while not retaining its original binding, did use hemp fabric for the pastedown. This is in accordance with the fabrics described in this study and which are considered a key component in the book’s make-up. This leads us to believe that it was possible that the first binding of the book may have had the same characteristics as seen in the rest of the manuscripts.

Similarly, some Moorish manuscripts, written in the Romance language but with Arabic characteristics (Aljamiado), share this same binding style. Examples include the manuscript ‘Aljamiado T2’ of the Royal Academy of History in Madrid and dated to the fifteenth century by Museu-Moli Papperer de Capellades, who also determined the Venetian origin of the paper (by identifying the filigree), as well as the manuscript from Hornachos, now in the Public Library of Extremadura, Badajoz, from the sixteenth century. It should be noted that this manuscript has the envelop-flap on the right side of the book.³

- Book I from the Arabic Manuscript Collection, a craft book now at the Historical Archives of the Province of Málaga, Spain, belonging to Muhammad b., Ali b. Muhammad al-Yayyar al-Ansari, imam of
the Mosque from Cútar, Málaga, at the end of the Mudejar era. It is a miscellaneous codex which includes fragments of notarial formulae and of the science of heredity, mathematics, traditions of the Prophet and legal questions regarding marriage. It is written in classical Arabic with vocalization largely in black lettering.

Although few in number, the documents in which we have identified these characteristics are significant in that they appear in different collections, in different geographical areas and from three different centuries, the fourteenth, fifteenth and sixteenth. They exhibit similar characteristics which are all specific to this al-Andalus period. We hope to be able to analyse other documents which will enable us to confirm our hypothesis regarding the existence of a type of binding particular to al-Andalus in the later centuries of Arabic occupation in the Iberian Peninsula.

The Cútar document: an example of al-Andalus binding

The manuscripts mentioned above have covers of tanned leather with no decoration (manuscript T2), or blind-tooled with simple patterns such as double lines, corners or central motifs with geometrical elements. Only Book I is covered with parchment with no decoration. Parchment (vellum) was the typical material used for covers by the Christians, who at this time lived within the same territorial area. It is for this reason that we have chosen this manuscript to exemplify the characteristics of this type of binding.

Pieces of previously used manuscript on parchment are overlapped to form the cover. The cover of Book II of the same collection shows fragments from the same document.

Paper has been used for the text-block, as well as for spine reinforcement, and to form the pasteboard of the covers.

The physical study of the paper was undertaken using microscopic and spectroscopic techniques. A routine and objective method, Fourier Transform Infrared (FTIR), has proven to be a good technique for distinguishing between different classes of cellulose fibres. Linen fibres are found in the writing support papers. However, we can identify linen and cotton fibres on the pasteboard.

The text-block is made up of 114 leaves grouped into twelve gatherings of eight to twelve leaves each plus seven additional leaves with annota-
Fig. 68. The envelope binding, with the parchment cover, the manuscript on the inside. The pasteboard has a blue dyed fabric lining.
Table 4. Book I. Historical Archives of the Province of Málaga, Spain.

<table>
<thead>
<tr>
<th>Sample number</th>
<th>Location</th>
<th>Fibre</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1-1</td>
<td>Textile of the inside front cover</td>
<td>Linen and cotton</td>
</tr>
<tr>
<td>L1-2</td>
<td>Cardboard covers</td>
<td>Linen and cotton</td>
</tr>
<tr>
<td>L1-3</td>
<td>Paper as writing support</td>
<td>Linen</td>
</tr>
</tbody>
</table>

Fig. 69. SEM images

![SEM images](a) L1-1  (b) L1-2  (c) L1-3

tions. The centre of each quire is marked to the right and bottom left, and the same symbol is used to mark the centre of the quire throughout the book.

The type of paper used is the same throughout the entire volume, whereas two different types are used in thefolios and additional notes. They are without watermarks, made in a mould of vegetable fibres, between 25 and 38 microns in thickness. The layout of the page is formed in a single column with a varying number of lines, depending on the chapter or the section of the work it relates to. Observation under transmitted light enabled us to see chain lines perpendicular to the spine, as well as remains of fibres and fabric.

The pasteboards and the envelope flap are formed by five layers of manuscript paper pasted to the inner face or flesh side of the parchment and mounted to the fabric. This fabric forms part of the sewing structure.
Fig. 70. Layering of the pasteboard.

Fig. 71. Blue dyed textile.
The pasteboard of the spine is made up of three layers of paper, adhered to the inside the cover. Each layer is formed by several pieces of reused documents.

The fabric lining, dyed blue, is part of the structure that attaches the text-block to the cover. It is textile made from linen and cotton fibres, the density of which is measured in 19 by 19 threads per square centimetre.

Most of the inks used are iron-gall, the composition of which is a vegetable extract rich in tannins, a metallic salt (iron in this case) and gum arabic as the binding medium. However, vermillion was utilised in some areas of the text to highlight some titles, vocalization or in marginalia.

Most of the text-block is sewn with the typical Islamic link stitch sewing. However, the first two and last two quires are sewn through the fabric wrapper using a long running stitch.

There is evidence of endbands in holes on the spine of the gatherings at the head and tail as a consequence of the primary sewing, as well as some fragments of thread. Through the analysis of these fragments we can identify linen fibres and indigo-tin dye.

The construction

When observing Book I and other similar examples, it seems that these books were bound as follows:

Starting with the fabric with dimensions large enough to line the whole cover, the sewing begins lacing this fabric to both first gatherings. This sewing continues through the following gatherings until it reaches the last three. At this point, the sewing is interrupted and a thin pasteboard, as wide as the spine, is adhered to the fabric, facing the text-block. The sewing goes through the fabric and the last two gatherings.

After this, the five pieces of pasteboard (two covers, spine, fore-edge and envelope flap), which reinforce the cover, are pasted to the fabric allowing some millimetres for the joints. In this specific case 3 mm are allowed for the joint.

The endbands are made by sewing through the fabric, piercing the text-block spine at different heights from head and tail (21, 16 and 12 mm from the head and tail). The thread used to sew the endband to the text-block is the same as the one used for the sewing of the text-block.
Fig. 72. Energy dispersive X-ray spectrum (vermilion).

Fig. 73. Energy dispersive X-ray spectrum (iron-gall ink).

Fig. 74. Chromatogram (indigotin).
Finally the binding is covered, in this case with parchment, but often in leather, holding together the pasteboard and the fabric and leaving the turn-ins visible.

Conclusions

Generally speaking, Islamic bindings are considered to be examples of case bindings. Our study raises a number of questions about this definition.

Can we consider this a case binding when the cover is not made independently from the text-block? In the first place, the sewing is the element that laces the fabric, which is part of the cover, to the text-block. Secondly, it is this fabric that is the main attachment – not only between text-block and cover, but also between different pieces of the pasteboard (front and back boards, spine, fore-edge and envelop flaps), which make up the entire support of the covers.
Fig. 76. Al-Andalus binding.

Fig. 77. Al-Andalus binding.
Jews, Christians and Muslims lived closely together on a daily basis in al-Andalus. They intermarried and created a new written language, ‘Aljamiado’. There can be no doubt that the art of bookbinding reflected this cultural cross-fertilisation, benefiting from shared language and geographical location and experimenting with new techniques, to produce a sort of hybrid, a marriage of new and traditional, Christian and Islamic: the al-Andalus book.

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Notes


3. Both manuscripts were conserved in the years 2000 and 2004 at the Barbáchano & Beny conservation laboratory in Madrid.