The conservation and display of Mughal & Islamic manuscripts at the Victoria & Albert Museum

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Abstract

The Victoria and Albert Museum (V & A) has an extensive collection of Indian miniature paintings of which the Mughal examples are particularly well represented for their high quality. These paintings consist of individual paintings as well as illustrated manuscripts on paper, cloth and palm leaf.

The 'Abhara Nam' is an illustrated manuscript dated 1595, from which the original binding was removed when it was acquired by the V&A in 1895. The 177 folios were originally displayed with little attention given to the text which is one of the most complete historical accounts of the reign of Emperor Akbar. The integrity of the manuscript was compromised by the removal of the original binding and the lacquer cover boards. Over a period of three years (2002-05) the folios were conserved and remounted using a 'facsimile system' to allow the verso of the folios to be viewed by scholars as well as simulating the original bound format. This manuscript is frequently consulted by scholars and the new mounting system allows the margins of the folios to be visible whilst respecting the original binding configuration and minimising damage caused by handling.

The 'Hamzanama' is a unique large format manuscript on cotton cloth created for the emperor Akbar between 1582-77. It was originally thought to comprise of 1406 folios. Conservation and mounting of a selection of 23 folios in the collection of the V & A took place in 2002, for the exhibition 'Traces of History', organized by the Sackler Gallery. This allowed investigation of both the structure of the V & A pages as well as analysis of the pigments used by the artists on three of the folios. Raman microscopy was used to identify pigments in forty locations on each of the three pages examined. The original use of this manuscript for public storytelling at the emperor's court and its large format were taken into account when deciding on appropriate methods of display. The system adopted was based on a project frame used at the V & A to show European illuminated manuscripts.

The 'Mir' and 'Manaseh albums' consist of a collection of paintings assembled during the reigns of Jahangir (1605-27) and Shah Jahan (1628-58). They include works by acknowledged master artists of the era as well as some interesting, high quality copies thought to date from the late 16th century. Raman microscopic analysis of pigments of these folios revealed the presence of Prussian blue which seems to suggest that they may date from the 17th century, shortly before they were acquired for the V&A. The V&A displayed the paintings originally intended to be seen together in the same manner as they would have been seen in the original bound format. A system of float mounting onto sheets of clear polyester allowed the pages to be displayed without the viewer being aware of the system of mounting.

The opening of the 'Jansen Gallery of Islamic Art' at the V&A in 2005 presented an ideal opportunity to conserve and reassess the physical condition of the Islamic manuscript collection, and gather new information about the works. Included in the new gallery is a small selection of works on paper and parchment which are regularly rotated to help minimize damage to the objects by light exposure.

Introduction

The Victoria and Albert Museum houses the largest collection of the arts of India outside the Indian subcontinent. The 'jewel in the crown' of this Museum is a collection of pages from Mughal manuscripts, as well as paintings and drawings from the Indian subcontinent and the Middle East, numbering over 5,000 items on palm leaf, paper and cloth. The Museum originally acquired part of this collection as a result of the amalgamation in the mid-nineteenth century of the East India Company Museum and the Indian colonial collections housed at Prince House in Mayfair. In several cases, important Indian works were divided between the V&A and the India Office Library, now part of the British Library.

The South Kensington Museum was established in 1852 as a museum of art and design, so from the very earliest years of its existence, paintings were displayed alongside with textiles, arms and armour, metalwork and ceramics. It was intended that meaningful visual and design links were established for the viewer, reinforcing the founding principle of the Museum to stimulate British artists and craftsmen. Some of whom had already been inspired by the work on display at the Great Exhibition held in Hyde Park in 1851. Consequently, the methods of display at the V&A were markedly different from the more academic display ethos of the British Museum. Today this difference is still reflected in the methods of display and interpretation, which influence how manuscripts are displayed and mounted. The current 'Nehru Gallery of Indian Art' at the V&A was refurbished in 1990. This was one of the first exhibition space upgrades at the Museum which has culminated in the opening of the 'Jansen Gallery of Islamic Art' in 2005.

Figure 1 The Nehru Gallery at the Victoria and Albert Museum 2008. Paintings are displayed side by side with textiles and arms and armour.

From the early years of the V&A in South Kensington the emphasis was on collecting miniature paintings rather than entire manuscripts. When the 'Abhara Nam' was purchased with its original lacquer binding in 1895, what remained of the sewing was taken apart and separated from the lacquer cover boards. Text pages were also separated from the illustrations. The latter were mounted in individual frames and displayed in the South Kensington Indian Museum in the 1890s, in a period of almost thirty years in galleries lit by very high levels of daylight.

The majority of the paintings purchased for the V&A were acquired by members of the colonial service, or officers in the British armed forces, serving in the sub-continent. Indian art had always been met by mixed responses in the West. Early in the twentieth century India's rising in relation to the other great cultural traditions began to be revitalised thanks largely to the Sinologue scholar Ananda Coomaraswamy and later in the century due to the writing and research of W.G. Archer and Mildred Archer, who were curators at the V&A and the British Library respectively. The study of Indian art moved gradually from the analysis of style in the four arts to a more comprehensive examination of the arts as a whole in relation to their historical, social and religious contexts. However, despite the increasingly scholarly approach to the appreciation of Indian art, it was judged by the principles of Western art history. It is only in recent times when Indian art historians, fully conversant with the nuances of the culture they are writing about, that Indian and Islamic art is beginning to be appreciated. This has resulted in a more subtle approach to its interpretation in western museums. This changed attitude is reflected in the way objects are conserved and displayed and presented to the public at the V&A. Increased thought is given to the degree of conservation an object receives and what impact this may have on the viewer. Care is taken with the method of presentation to enhance, the viewers' understanding of an objects' use. In the case of a manuscript page it is important that it is presented as such rather than as a stand alone composition. If a folio is part of a series of paintings it is made clear to the viewer rather than presenting the work in isolation from its context.

Figure 2 The 'Abhara Nam' on display at the South Kensington Indian Museum c.1930.

Acquired by Major General John Clarke in Ooty where he was the district commissioner. The manuscript was sold to the V&A in 1895. It has great importance as a historical document of Akbar's reign, as well as featuring the work of some of the most prominent artists of the day. When the manuscript arrived in the Museum the remaining binding was taken apart. The lacquered cover boards were lost together with any evidence of the original sewing employed. In the early 1900s the 156 illustrated folios were mounted as individual works and displayed at the South Kensington Indian Museum. This can be seen in a photograph from the mid 1930s which shows the entire manuscript displayed in one of the galleries devoted to Mughal art.

Figure 3 'Nekhara Nam' folios on display at the Indian Museum, South Kensington.
The "Minto and Wautage" albums consist of a collection of paintings and calligraphy examples compiled during the reign of emperors Jahangir and Shah Jahan. Paintings of the reign of Shah Jahan show particular attention to decorative detail. The interplay between the paintings and the patterns on the border pages are essential to the appreciation of the work as a whole.

The "Minto album" takes its name from Lord Minto who sold his collection at Sotheby's in 1923, which was subsequently brought by the V&A and the Chester Beatty Library to Dublin. The folios consist of a painting on one side and a panel of calligraphy on the other. The examples in the V&A include a number of interesting portraits and reflect Jahangir's own interest in individuality. In most examples in the V&A, the decorative borders and the paintings are of a similar date and are considered to be an integral part of the composition of the page.

The "Wautage" album consists of 33 album pages from a bequest to the V&A by Lady Wautage. When acquired it was believed that it was comprised of 16th-17th century paintings, although it has subsequently been found to be a mixture of 17th-century examples with twelve 19th-century copies. The copies are very interesting and of high quality and they are painted in a markedly different style from the 12th-14th century originals. There is no evidence that either of these albums were ever sold and found their way in which the now known the 'Hamamunam' was presented.

Examination and paint analysis

In most cases it was possible to identify many of the pigments used by Mughal artists using optical microscopy. In some cases UV examination or UV photography was used to distinguish between pigments, which appear identical when examined with the naked eye. Occasionally, X-ray photographs may be used to supplement information about pigments in cases where information about a multi-layered page structure is needed, as in the case of the 'Hamamunam' folios.

Information about the structure of the 'Hamamunam' has been obtained by taking cross sections through the paint layers in the same way as employed to sample oil paint in paintings. These cross sections allow scholars to see how the paint layers were affected and has revealed information which cannot be obtained by other means. However, currently the V&A is only using non-destructive techniques of analysis to gather information about pigments.

In 2003 the V&A Paper Conservation Department embarked on a collaborative project with the Christopher Ingold laboratories of University College London (UCL). This research focused on the identification of pigments in folios from the 'Hamamunam' and 'Abharamunam' between thirty and forty sites were sampled from each folio. In the case of the 'Hamamunam' the palette was found to be similar in each of the three folios sampled. It was interesting to note that the pigments identified are almost identical to those used by Persian artists of a similar date. The palette itself is extensive and includes two blues - indigo and azurite, two reds - red lead and red ochre, white lead and carbon. Particularly interesting is the clear differentiation between pigments used for particular purposes. For example, greens for the representation of plants are composed of indigo and emerald, whilst architectural details and borders are coloured with verdigris. There is little evidence that white paint was mixed with other colours to modify the hue of the paint or increase opacity. This is contrary to previous held theory that the paler hues of these paintings were a result of the admixture of white.

More recently, investigation of the palette of the "Wautage" album pages has been conducted by the V&A Science Department. Examination has revealed valuable information concerning the authenticity of several of the pages which were thought to be copies dating from the late eighteenth or early nineteenth century. The 'authenticity of the "Wautage" collection, which included "signed" works by leading artists of the reign of Jahangir and Shah Jahan, was not questioned until 1954, when the great Indian scholar Mott Chandola published the catalogue raisonne of some of the folios of the 19th century." Wautage's" probably dates from the eighteenth century. The draughtsmanship, depiction of landscape and colouring of the borders, was, he noted, remarkably inferior to the seventeenth century originals in the same collection and the paint was thinner.

The palette of two folios from the "Wautage" album were compared using Raman microscopy to verify the presence of modern pigments. Both Persian blue and ultramarine were identified on one of the folios together with indigo, used to paint parts of the borders. Persian blue is one of the earliest synthetic colours - it was first made in 1704 in Berlin, but was not in common use in Europe before 1790. It is unlikely that this pigment would have found its way to India before the end of the 18th century. This finding seems to indicate that this folio was highly likely to be a 19th-century copy rather than a 16th-century original painting.

The results obtained from Raman microscopy confirmed earlier observations based on stylistic analysis and optical microscopy. Raman microscopy was selected due to the relative ease of analysing many areas on one painting and due to the ability to conclusively identify mineral pigments and in a few cases, differentiate between different dye stuffs.

Consolidation

Many of the folios in the manuscripts are suffering from flaking pigment, as well as surface abrasion to the paint layers. Conservation of the folios has frequently included the consolidation of flaking paint with methyl cellulose (MC) or ethyl hydroxyethyl cellulose (EHEC) applied with either a brush or a nebuliser. Most of the paint loss appears to have been caused by abrasion and poor handling rather than from any inherent problems, although occasionally overburnishing of some areas has caused instability. On the whole, the 16th-17th century Moghal manuscripts in the V&A were skillfully painted by craftsmen familiar with their materials. Damage is more likely to have been caused by poor handling or illustrations in relative humidity causing expansion and/or contraction of the paper support. This can be particularly problematic with folios composed of different types of paper with different expansion coefficients. Two particularly distorted pages from the 'Hamamunam' manuscript appear to be mainly caused by mismatching of the grain direction of the paper and cloth laminate which occurred when the manuscript was assembled in the sixteenth century.

EHEC (1:7%) is frequently used as a consolidant for flaking pigment because it has similar aging characteristics to methyl cellulose but is available in a wider range of viscosities. As EHEC has a relatively short shelf life, once it is dissolved in water or solvents, diluted methyl cellulose (0.5%) is also occasionally used as a consolidant for areas of flaking pigment. Both of these aqueous solutions may be applied locally to areas of unstable paint with a brush or conservator's sprayer, or in more destructive applications of ethanol. The ethanol is applied first with a brush and allowed to nearly completely evaporate before applying the consolidant. This encourages the consolidant to be drawn under lifting areas of paint by capillary action. Occasionally areas of under-bound pigment may require overall consolidation using a nebuliser to distribute a fine mist of consolidant over the surface to provide a protective surface overall, or part of the entire paint layer. Experience with the nebuliser has confirmed the advantages of the low viscosity EHEC, as this allows it to be propelled more easily than MC at the dilutions needed to bind the powdery substance. The surface is then allowed to dry. This technique was pioneered at the V&A by Dr Sandra Grantham and has been invaluable in the development of more effective techniques for conservation of flaking paint in a wide variety of art objects, including Indian miniature paintings.

Areas of unstable paint found on the 'Hamamunam' folios were consolidated with a 1% w/v solution of isinglass (Salix alba) as this was believed to bind more effectively to the cotton cloth which was used as the support for the painting. The thiolcarboxyl applications and the amount of caking sometimes caused by previous mounting systems has resulted in extreme planar distortion. This has caused stress and paint loss. The 'Hamamunam' support is composed of alternating layers of hand-made paper and thin cotton cloth, which can cause predisposing responses of the materials to fluctuations in relative humidity. In some instances, a 0.5% solution of isinglass was used to consolidate flaking paint on the Hamamunam folios where a stronger bond needed to be formed between the paint and
the cotton cloth support. The greater strength and flexibility of the silk was considered to be more important than the ability of the consolidant to flow beneath the paint layer and the cloth support.

Repair

All folios exhibit a range of deterioration including physical damage as a result of handling and use. The spine edge of folios have been damaged and there are numerous small losses of paper and the de-lamination of the hand made paper (Washi). Many of the pages have been attacked by wood boring insects and silverfish which have left insect channels in the paper, or have eaten away the surface layer of paper sized with starch. There are unsightly old repairs and the widespread use of gluestick tape to reinforce the spine edges of the folios. Old repairs which have been skillfully executed with appropriate papers are frequently left in place, in instances where they are still providing strength and stability to the pages.

Old repairs were removed if they were covering inscriptions, or obscuring part of the illustrations. This is a general principle when considering the conservation of all of these Mughal manuscripts. The technique of removing repairs from the highly polished surface of this type of paper requires a little experience to master, to ensure removal without removing the surface of the paper of the original. The author has found that using saliva to wet old repairs and tapes works more effectively than using poultices of methyl cellulose. Light sanding of the surface of the tape or the old repair before application of saliva is recommended to allow the moisture to penetrate more evenly. Leaving the moisture in contact with the old repair or tape for the right length of time is vital to ensure that the adhesive is softened, but the underlying paper of the original is not affected.

Residues of animal glue were found along the spine edges of many of the pages of the 'Moto' and 'Wartage' albums. This was probably from a previous rejoining and is very disfiguring to the surface of the pages. Removal of the old adhesive needs care, as excessive rubbing with a cotton wool swab disturbs the burnished and sized surface of the paper below. Judicious brush applications of small amounts of hot water (50°C) to the surface of the adhesive are followed by blotting with lens tissue or cotton tissue. After a few seconds the lens tissue can be peeled away from the surface without a small amount of adhesive. This process must often be repeated several times before any significant improvement can be seen.

Figure 5 Removal of adhesive from painted and gilded areas using warm water & lens tissue.

Repair of significant losses from the edges of the folios frequently entailed splitting the paper laminate and inserting small pieces of modern, hand made paper similar in weight, surface finish and colour to that of the original page. The author is currently using a modern jute & cotton paper made by hand in India by Zahir Mohammad Hussain. Old Indian papers are also occasionally used for infilling missing areas. These may be toned with watercolour. The surface texture of these old papers may be adjusted by burnishing. What starch paste is used as the adhesive in all cases.

The extent of in painting varies from one folio to another depending on where losses have occurred. The patch is toned to the approximate colour before inserting it into an area of loss. In the case of a folio from the 'Moto' album, the repair was toned with dark blue watercolour to match the colour of the page, but no attempt was made to imitate the gold floral pattern of the original. Likewise the gilded strip around the border was reconstructed from Japanese, paper and coloured with yellow ochre watercolour. In this manner the repair is inconspicuous but obvious on close inspection.

Small tears and creases in the paper laminate were repaired with small strips of thin Japanese paper (Momigami) adhered to the verso of a folio with wheat starch paste. Watercolour was used to tone the Japanese paper before use. The author has also experimented with using banana fibre papers for this purpose, but has found that the wet strength of banana fibre paper when pasted makes it slightly more difficult to use. The banana fibre paper has been developed in India by the Hand Made Paper Institute in Sanganer as a substitute for more expensive, imported lens tissue.

Mounting & Display

Mughal albums, like the 'Wartage' and 'Moto' albums in the V&A, were produced for an elite audience of the Emperor and his close associates. Imperial album pages presented at the V&A are usually mounted to show the decorative borders, which are thought to be contemporary with the painting. Sixteenth and seventeenth century examples in the collection at the V&A are often by the same artists who produced the paintings. Until recently, the borders of paintings were covered to deliberately to focus attention on the image, rather than its context as part of a manuscript with a narrative function. There are many double page illustrations in both the 'Wartage' and the 'Moto' album. In these cases, it may often be misleading to show the painting in isolation from its neighbour. A recent display at the V&A showed a double page from a 'Moto' album which depicts Shah Jahan riding with his Sons. It was mounted in such a way that the two paintings were seen side by side without any mount or barrier, in much the same way as it would have appeared in the original bound format. In order to achieve this, the pages were float mounted on to a sheet of clear polyester (Melinex®, 125 micron). Tabs of Japanese paper were attached to the verso of each of the folios with wheat starch paste and passed through slits in the clear polyester and adhered to the back of the Melinex with double sided tape (3M 415). This mounting method is an adaptation of a method used at the V&A and the British Museum when float mounting two fold and three fold Japanese woodblock prints.

Figure 6 Double folio from Moto album float mounted on Melinex®.

The mounting of the 'Wartage' is an example of the need to display manuscript pages to allow the viewer to appreciate the page as a part of a connected series while allowing the many inscriptions in the margins to be clearly seen. These notes are considered to be in Shah Jahan's own handwriting and give useful information about the artist responsible for each part of the painting. They are considered to be integral to the viewer's understanding of the significance of this manuscript. The openings of the window mounts are cut to allow the viewer to see all of the inscriptions in the margins, even if this entails revealing heavily damaged edges. The principal aim is to reinforce the viewer's awareness of the provenance of the manuscript (folio 60) and is considered to be of greater importance than simply enhancing the visual appearance of the painting by covering up physical damage.

Figure 7 Use of simplified version of fasten hinge along left edge of 3 page from the Wartage album.

Folios which formed part of an original bound manuscript are mounted in special fascicules which allow the verso to be safely examined without causing physical damage to the edges of the pages. The fascicule is constructed from a variety of Japanese papers which provide both support for the pages as well as flexibility along the hinge, which allows the folio to be turned, in order for the verso to be examined safely. The fascicule itself is attached into a window mount with an even application of paste along the left edge. A double thickness window mount was used. The opening of the lower window mount is cut at least thirty millimetres larger than the uppermost mount, which prevents the upper window abrading the surface of the painting and also allows the page to expand and contract in response to changes to relative humidity.

The mounting and display of the 'Hamunand' presented a very different set of problems due to its large size (approximately 68 x 51 cm) and the controversy surrounding the possible use of the folios as part of a Mughal story telling tradition (in the Imperial) court. There is little evidence to suggest that the 1600 individual folios of the original manuscript were ever sewn together in a bound format. Instead, it seems more likely that the folios were stored in groups corresponding to the different sections of the narrative – a group of fifteen or twenty pages tied together in a bundle, sometimes protected by wooden, painted cover boards. Considerable care was taken at the V&A to develop a system of display which reflected the use of the manuscript as a storytelling device. For this reason it was decided to display one of the folios featured in the "Jahangir" exhibition in an open perspex frame work similar to those already used at the V&A for the display of parchment and vellum illuminated manuscript pages. The folios was displayed in a free standing case which allowed all edges to be seen and reinforced to the viewer that they were looking at a work of art not a conventional bound item. Hinges of Japanese paper (approximately 20 mm wide) were attached at approximately 10 cm intervals around the edges of the page. These were then attached to the perspex frame using 20 mm wide strips of 125 micron Melinex.
Paintings in albums were frequently re-mounted at a later date in response to changing tastes of a new owner. This is similar to the European tradition of mounting old master drawings and prints in albums. The physical structure of pages does vary considerably from one manuscript to another. A folio may be an on-lay with the border formed by painting on a secondary support, or the illustration may be laid into decorative borders. This certainly appears to be the case with the ‘Barrow’s’ manuscript in the V&A dated 1759 which was re-mounted in the late Mughal period with ornate floral borders, characteristic of the tastes in the late seventeenth century. This change of presentation is of great interest reflecting the aesthetics of the time.

Alternatively, the page may be a laminate composed of two, three or more burnished sheets of paper – the paintings on the ‘recto’ and the calligraphy panels on the ‘verso’ are both integral to the sheet. The ‘Ahwaram’s’ pages are constructed in this way, as are the pages from the ‘Bahuran’s’, a Mughal manuscript in the V&A dated 1590.

The Jameel Gallery of Islamic Art

The refurbishment of the Islamic Gallery presented an ideal opportunity to assess and conserve the pieces previously on display as well as to prepare new material for public access. This monumental task included the conservation of more than 400 objects, including manuscript pages, leather bindings and pages of calligraphy on both parchments and paper.

The V&A closed its original gallery devoted to Islamic art in 2004 after a generous donation from the Jameel family allowed the refurbishment of the space. During this period of modernisation (2004-2007) much of the collection was cleaned and conserved. A travelling exhibition of Islamic art from the collections under the title ‘Palace of Mosques’ was toured to the United States. This allowed the collections to be enjoyed by a wider public while the space at the V&A was redesigned. The educational and interpretational aspects were particularly emphasised, as in former times Islamic art at the V&A had not enjoyed great prominence. Until 2004 there were no curators on the staff who specialised in this area.

Conservation of a very wide range of materials took place at the V&A including items made of ceramics and glass, textiles, metalwork, manuscripts and books. The redesign of the gallery allowed light-sensitive objects, including manuscripts and books to be displayed at the correct light levels, while allowing other less sensitive objects to be seen at slightly higher levels of illumination. Liaison with the conservation department from the earliest planning stages allowed the possibility of frequent future rotation of objects to minimise light damage and the design of the cases to allow easy access for the periodic changing of the exhibits. Microclimate were constructed for some of the more humidity sensitive objects such as the ‘Mosque Lamp’, which was suffering from extensive bronze disease and need to be permanently kept in a dry environment.

The need for reinterpretation of the objects allowed further research to take place regarding the materials of which the manuscripts and books were composed. One of the pieces investigated by the V&A Science Department was a beautiful album page consisting of an amalgamation of calligraphy, a brush drawing of a horseman and a painting of a standing figure on one sheet of paper. The pigments were analysed using Raman Spectroscopy, which confirmed the presence of the dye indigo in the floral border – now faded to the point at which it resembled a pale green/grey colour, rather than its original blue-black colour. The palette also contained vermillion, red lead and malachite pigments, which are all characteristic of Indian manuscripts of this period.

The conservation and re-sewing of a giant ‘Manush Qur’an’ dated c. 1500 from North Africa was an important part of this conservation programme. This allowed the Book Conservation Team to investigate the extent of the original binding structure and determine how far it was possible to take the reconstruction of the binding and leather cover boards. The aim of the treatment of the existing folio was to stabilise and strengthen the pages sufficiently to allow them to be turned without further damage. The appearance of the leaves, once treated, was much improved. The simple sewing structure adopted has kept open the option of changing the sewing and including a binding at a future date, if necessary. The lack of adhesive allows for easy reversal of sewing and separation of leaves. If more leaves are acquired in the future, they can be incorporated without complicated rebinding. The leather cover and the cardboard core had suffered numerous losses. Both required extensive repair to make them fit for display, as well as cleaning, consolidation and flattening of the cover boards to reduce distortion.

The refurbishment of the Islamic Gallery at the V&A presented an important and timely opportunity to clean, conserve and research the Islamic collections at the Museum and to make them more accessible to the public as whole. Re-examining attitudes to Islamic art in general and how it is regarded by a western audience, and the cultural context in which it is presented has been fundamental to the successful re-display of Islamic art in the V&A.

Figure 8 Giant ‘Manush Qur’an’

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Figure 9 Jameel Gallery displays.

Notes

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