

## Cultures Bound Together: Examination of the Mirat ul Nu'jum, 1740, Surat



### Introduction

The Mirat ul Nu'jum, or Mirror of Constellations, is a Persian translation of an Arabic text, created in Surat, a port city in Western India. It was commissioned by a Muslim Nawab, or local ruler, during the waning of the Mughal empire. The colophon of the book dates to 1740. The manuscript will be hereafter referred to as the Binney ms.

The Binney manuscript is an astronomical text. It contains descriptions, charts and illustrations of constellations. For comparison and context, relevant known Arabic astronomy texts include the more frequently referenced and replicated text, the Nu'jum al-'Ulum, or The Stars of the Sciences; Iranian astrologer Abd al-Rahman b. Umar al-Sufi's famous 10<sup>th</sup> century work, Kitab suwar al-kawakib al-thabita, or The Book of the Constellations; and the first volume of a 9<sup>th</sup> century Arabic text, possibly of Egyptian origin, the Kitab ghara'ib al-funan wa-mulah al-uyun, or The Book of Curiosities.

All of the above manuscripts are bound in tooled, full leather bindings. This style has been thoroughly documented as being typical of Islamic documents of the 17<sup>th</sup> century and earlier. It is speculated that the Binney ms would have been bound in a style typical of the elaborately decorated full leather or lacquer covers popular in Persia and India in the 18<sup>th</sup> century. If true, this binding has been lost. The current binding shows evidence of two further structures, both of which appear to be local interpretations of Western ledger binding styles.

Dating the manuscript to 1740, and following its' peregrinations to the United States in the 20<sup>th</sup> century, is to follow an interesting period in India's history. In 1615, Surat became one of the first Indian cities to come under the exclusive trade rights of the East India Company, won away from the Dutch, French and Portuguese, as granted by the Mughal emperor Jahangir. The following decades were characterized by battles for control between European countries and, within England, between the Company, other trading companies, and the British Parliament. The Seven Years War, (1756-1763), between England and France further established the East India Company's presence. The Anglo-Mysore wars, (1775-1818), fought between the French-backed Kingdom of Mysore and the East India Company, resulted ultimately in the dominance of the British in India, followed by the imposition of control of British Parliament over the Company in 1773.

Placing the manuscript within the context of scientific development in 18<sup>th</sup> century India, one finds it easy to speculate that the translation was influenced or inspired by the work of Sawai Jai Singh (1688-1743), whose efforts to revive the study of astronomy resulted in the construction of many observatories across India. Jai Singh commissioned a large number of Hindu, Greek and Muslim astronomy texts to be translated. He sought the assistance of Jesuits in obtaining European manuscripts, and it seems likely that he was exposed to Western binding structures in the process. Further, he was the ruler of Jaipur, and owned extensive property near Surat, making it seem likely that he was in contact with Surat's Nawab.

The confluence of cultures, Arabic, Persian, Indian and British, and permutations of religion, science and politics involved in the creation of this manuscript serves to illustrate the complexity of the era in which it was formed. The physical composition of the binding structure, in turn, acts as evidence of the life of this object as it moved forward through time, and through many hands, for many purposes. It can be seen, therefore, as an embodiment of the cultures and histories bound together in our understanding of India.

### **Provenance**

The book's first owner was Tegh Beg Khan Khan Mirza Gul(1665-1746), who held the title, variously, of Governor; Superintendent of Accountancy; Clerk of the Crown; or Mutasadi, in Surat, India from 1728-1746, as granted by Emperor Muhammad Shah. The Nawab is named, in the colophon, as the commissioner of the Mirat ul Nu'jum Binney manuscript.

Documentation appears to show that the family's property was dispersed in 1800, by the Government of India. Future research in the regional and national archives of Surat, Gujarat, and India may assist in determining where the manuscript was deposited during the 19<sup>th</sup> and much of the 20<sup>th</sup> centuries.

The next documented appearance of the manuscript found thus far is its purchase from Origins, an antiquarian bookseller in Boston, Massachusetts, in 1970. The manuscript was purchased by Edwin Binney 3rd, for \$800, on the apparent advice of B.N.Goswamy. Dr. Goswamy planned an English translation of the text, and, according to Binney's notes, stated that this was "the only text known to have come out of Surat".

In 1990, the San Diego Museum of Art acquired the manuscript as part of the Edwin Binney 3rd Collection. The Binney manuscript has remained part of this important and comprehensive collection of South Asian art to the present time.

### **Summary of Research**

Current research on the Binney manuscript began in 1992, when the Balboa Art Conservation Center (BACC) examined it as part of a survey of the Edwin Binney 3<sup>rd</sup> Collection, funded by a grant from the Getty Foundation. The manuscript was subsequently selected for inclusion in a 2006 San Diego Museum of Art exhibit, "Domains of Wonder", and was brought to BACC for stabilization and treatment.

This author examined the manuscript before exhibit, and examined it again, in greater detail, after the SDMA exhibit. A treatment proposal was developed based on research performed

during the author's 2006 Mellon Fellowship year. Treatment was carried out, under the supervision of Janet Ruggles, Director and Chief Conservator, BACC, between May and August of 2006, prior to a traveling exhibit in which the manuscript was included.

Examination of the manuscript focused on the binding structure and materials, to determine whether or not the current binding could be said to be the original, as well as to support recommendations for stabilization for exhibit, storage and travel. A full description and condition report is attached below.

Evidence was found that suggests that the manuscript has been sewn at least 3 times. First, there are 2 pairs of un-used sewing holes that correspond to fragments of cord adhered to the boards, indicating that at least one binding was a laced-on structure sewn onto two cords. Second, there are other un-used sewing holes that appear to have been spaced for an unsupported link-stitch sewing. Third, there are currently utilized sewing holes for unsupported all-along sewing. This sewing is broken in most sections.

Starting with Bosch, Carswell and Petherbridge's seminal work, "Islamic bindings and bookmaking: a catalogue of an exhibition", and continuing with a sampling of other conservation literature, an argument can be made that both the laced structure and the unsupported link-stitch were typical of Islamic bindings of the period, while the unsupported all-along stitch combines elements of those bindings with elements of European binding styles. For example, the fast and efficient all-along stitch is generally associated with Western production binding, but it is juxtaposed, here, without any of the spine linings that would be expected in such a process.

The boards display evidence of at least 2 bindings. The first was half-goat with marbled paper sides. The manuscript was then rebound with red cloth and wallpaper sides. Attempts at dating the marbled paper and wallpaper have so far been fairly informal, and inconclusive, depending only upon published works such as Richard Wolfe's book, "Marbled Paper: it's history, techniques and patterns", and websites such as the Victoria and Albert's online collection of wallpaper images. A discussion of these websites may be found in the attached annotated bibliography. Further research into the pigments, papers and patterns used for these decorative papers will help to date the binding structures, although it is essential to keep in mind that a paper may have been created a good deal earlier than it was used in the binding. Neeta Premchand's book, "Off the deckle edge", a survey of past and current papermaking facilities in India, and Dard Hunter's influential work, "Papermaking by hand in India" will lend additional support to identification of the materials used to construct the Binney manuscript. Consultation of the East India Office archives, as well as archives in India itself, may provide more information about 18<sup>th</sup> century papermaking and bookbinding trades that contributed these materials.

It is important to note that the conservation and bookbinding literature is weighted toward descriptions of Islamic bindings created in Arabic nations, and that there appears to be a dearth of information about bindings of any kind created in India. Further, most descriptions and treatment appear to have addressed the most valuable and visually appealing of various institutional collections, such as Qu'rans, and other sacred, highly decorated texts, rather than less ornate vernacular texts found in archives and most often consulted by scholars, past and present.

The National Library of Medicine (NLM), Baltimore, Maryland, has an excellent online exhibit of Islamic medical texts. Some similarities in construction style and materials can be found in the natural history manuscripts in this collection, which encourages further exploration in this direction. A telephone conversation with Stephen Greenberg, Coordinator of Public Services at the NLM, emphasized what appears to have been standard procedure for many South Asian manuscripts in Western collections. He stated that all of the manuscripts were rebound in red leather cases when the collection was protectively relocated inland during WWI. No evidence of original bindings was kept. This fact, more than any other, makes it imperative to preserve remaining manuscript bindings as much as reasonably possible.

The Bodleian Library is also in the process of compiling a website in response to their survey on the conservation of British holdings of Asian documents. This extensive project will continue to furnish a great deal of valuable information, but has very little of Indian origin at this time. In fact, one of the primary recommendations to be found on this website states that much more information is needed about condition and conservation of Indian documents.

INTACH, the Indian National Trust for Art and Cultural Heritage is currently taking steps in this direction, establishing conservation and preservation policies and procedures, as well as educational opportunities and funds for conservation. A recent INTACH newsletter describes the Indian Council of Conservation Institutes (ICCI) National Mission for Manuscripts projects, including conservation of paper and palm leaf documents, wallpaper, and paintings, as well as presentation of preservation workshops in a variety of rural locations.

Many people graciously consulted with BACC during the course of this research. Dr. Robert Skelton was able to shed a great deal of light into the historical context of the person who commissioned the manuscript, as well as to identify the illustrations as “a type of sub-imperial or bourgeois painting containing vestiges of pre-Mughal Sultanate styles being carried on in local workshops.” He was also helpful in ruling out any direct relationship between the Binney Mirat ul Nu’jum and another astronomy manuscript, the Nu’jum al’Ulum, having examined the version owned by the Chester Beatty Library, Dublin, and the Wellcome Library, London.

United States conservators Priscilla Anderson, Gary Frost, Yasmin Khan, Chela Metzger, Sherelyn Ogden, Olivia Primanis, and Abigail Quandt, and British conservator Sabina Pugh all lent their expertise to the task of defining the issues and developing a conservation strategy. Yasmin Khan was particularly helpful in suggesting that the current binding is probably not original to the manuscript. It is interesting to note that none of these experienced conservators had seen any manuscripts of similar dimensions and binding style to the Binney ms., and most had seen few-to-zero Indian manuscripts of any kind.

Several articles outlining appropriate conservation treatment were essential in making treatment decisions. These include Scott Husby’s *Islamic Book Conservation*, and Martha Smith’s *The Conservation of Islamic Book Pages*, both published in the 1990 *Book and Paper Group Annual*; Glen Ruzicka’s 1996 *Book and Paper Group Annual* article on the conservation of a Yemenite Taj; and David Jacobs and B. Rodgers 1991 *Restaurator* article, *Developments in the Conservation of Islamic Manuscripts at the India Office Library, London*. These were supplemented by essays that called for valuing bookbindings as bearers of as much information as the text itself: Jan Paris’s “Towards a codicology of bound archival volumes...”; Paul Bank’s “Some notes toward a typology of artifact values for books and manuscripts”; and Mildred

Budny's "Physical evidence and manuscript conservation". Many other helpful scholars, articles and essays were consulted, and are described in the bibliography. There is still a large amount of work to be done to firmly contextualize the content, materials and structure of this particular manuscript, as well as 18<sup>th</sup> century bookbinding practices in India.

## Description and Condition

Date: 5/10/06

**BACC #:** P19/06

**Artist:** **Illustrations: Abdul Rahman, son of Umar, alias Abu'l Hasan Sufi**

**Subject:** Mirat ul Nu'jum (The Mirror of Astronomy), Translated from Arabic into Persian by Hamid ud-Din, son of Maulana Shaikh Muhammad of Ahmedabad. Commissioned by Nawab Tegh Beg Khan, Surat, Gujarat, India, 1740.

**Type:** Bound Manuscript, Persian translation from original Arabic, in red and black calligraphic ink, with charts and watercolor illustrations. Handmade sized and burnished paper; tanned, dyed goatskin; marbled paper; dyed cloth; and wallpaper.

**Dimensions:** Sheet size: 18 1/8" H x 20 1/2- 20 1/8" W (47cm x 52 cm)

Folio size: 18 1/8" H x 10 1/8" W (47 cm x 27.5 cm)

Board size: 18 3/8" H x 10 1/8" W

Number of leaves (1 page, recto and verso): 83 pages, 3 un-numbered, plus 2 pasted down endsheets, Total number of leaves: 85

**NOTE: SDMA Accession information indicates 89 pages**

Number of illustrations: 29

Number of charts: 16

*See Attachment for Collation Notes*

*Manuscript was document with 35mm color slide film, as well as with digital photography.*

**Distinguishing Marks:** There are 2 sets of collation marks. Set 1 are foliation marks in graphite Arabic numerals, in the upper right corner of each leaf, recto as moving from front to back of manuscript. Set 2 are catchwords in black or red calligraphic ink, in the bottom margin of the verso of each leaf, in a Persian script.

Page #81, verso has several notations: Upper right corner, in green pencil "II – (2)"; Lower right corner, in graphite "1990:1013, 1510"; Lower right corner, in red ball point pen "Ms 45".

## **Binding**

**Paper:** Handmade, wove, medium weight, burnished smooth, sizing brush marks are apparent. Pressing marks apparent at head and tail folds. Trimmed all around at time of original binding. No edge decoration. The paper displays extensive damage due to insect tunneling. Many leaf corners and head and tail areas are lacy and fragile.

The manuscript leaves show impressed ruling frames and lines, and some manuscript and illustration leaves show a wheel-pricked design-area outline. The ruling frames are out of square with the gutter by approximately 1/8". The script corresponds with the ruling lines.

There are adhesive stains in the gutter on many leaves, and some leaves remain adhered. Some leaves have evidence of water damage in the form of tidelines and brown staining. There are a significant number of old fills and mends.

The marbled paper fragments are minimally visible, but appear to be a spot or shell pattern, possibly Turkish, Portuguese, or British, in umber, ochre and dark blue. Yellow and pink are also apparent in marbled paper that was covered with the wallpaper and recently lifted.

The wallpaper sides appear to have been block printed and flocked, a matte pale green ground with a darker, glossy green acanthus pattern. The ground has faded, where exposed, to an ochre color. The wallpaper may be tentatively dated to the mid-19<sup>th</sup> century.

**Format:** Folio.

**Collation Pattern:** *See attachment*

**Boards:** Laminated pasteboards, no apparent shaping; cut flush to text; no yapp. There are two sets of lacing holes. Boards appear to be laminated in overlapping sections, leading to horizontal and vertical crack lines. Boards are delaminated at all edges and corners. The boards display evidence of insect tunneling, probably contemporary to insect damage found in the text block.

**Board to text attachment:** The boards are completely detached from the text block. The boards appear to have originally been attached to the text block by 2 laced-on tanned leather cords. These cords are now severed, but fragments remain attached to the boards. Subsequent board attachment appears to have been minimally accomplished by adhering the cloth-covered leather spine directly to the textblock spine, and then by pasting down the 1<sup>st</sup> and last textblock pages as endsheets.

**Covering material:** Half goat, tanned, with marbled paper sides (possibly in the Turkish style), rebound with dyed red cloth and printed wallpaper sides. All covering materials are abraded, with significant losses. Red cloth dye is very water-soluble. Goat skin fragments are brittle, and appear to have been treated with a consolidant. The spine piece is attached to only one board, and is fragmentary and brittle. There is a remnant of a paper label attached to the spine piece. No lettering remains.

**Note:** Research and consultation supports speculation that these covering materials are not likely to be the original binding materials, but represent, instead the 2<sup>nd</sup> and 3<sup>rd</sup> bindings. There is evidence to suggest that the rebindings were performed in India as the manuscript changed ownership. This evidence includes, first, the use of tanned leather cord as a sewing support, the use of 2 sewing stations and no kettles, the lack of sewing support in the 3<sup>rd</sup> binding and an insufficient text-to-board attachment, and the trimming of the textblock and boards to an unusually oblong shape that appears to be somewhat typical of natural history manuscripts of the time, place and period.

**Sewing:**

The condition of existing folds make it difficult to diagram sewing patterns, especially as there appear to be multiple unused sewing holes, as well as losses related to insect damage, and use. In addition, many of the leaves have been tipped together. The sections, where identifiable as

such, are made up of varying numbers of folios, as appears to be typical of contemporary manuscripts.

It is hypothesized that the manuscript was bound at least 3 times:

1) *Evidence of binding prior to current boards:* There are sewing holes that appear unrelated to those used in the leather or cloth bindings. The presence of these unused holes may indicate at least one prior binding, possibly involving a different set of boards, or board attachment method. Additionally, research so far indicates that Indian and Islamic bindings of this period were typically sewn unsupported, and were bound in full leather or in lacquered boards, which were elaborately decorated.

2) *Evidence of binding to current boards, contemporary to leather and marbled paper:* It is possible to discern the presence of 2 sewing stations, with each set of holes spaced approximately 5 cm apart. These sewing stations correspond to leather cord fragments attached to the current binding boards.

3) *Evidence of current binding, contemporary to wallpaper and red cloth:* The current sewing is all-along, continuous, with 3-ply natural fiber thread, most likely linen. The thread shows red dye in some locations, evidence that it predates, or is contemporary to, the red cloth rebinding

**Supports:** There are fragments of 2 tanned leather cords on the boards, and some evidence of 2 corresponding sewing stations in the text folds. These cord fragments sit flush to the upper board surface, extending to the board edge, and can be felt as raised lumps on the inner board surface, where they emerge through lacing holes, under the endsheet pastedowns.

**Endbands:** There is no evidence of endbands.

**Endpapers:** The endpapers appear to be of the same paper as that of the text, and in one case, contain text. They appear to be sewn through fold and attached to the first and last signatures, but are completely detached from textblock. The front endsheet may be a folio with both sheets adhered to the board. The sheets are pasted down over the cloth and paper turn-ins with unknown adhesive. Both pastedowns display rectangular, 2 cm wide x 3 cm long browning stains, which correspond to locations of leather and cloth turn-ins and lacing cords.

**Adhesives:** The adhesive used on the endsheets appears to be water-soluble, although there are scattered areas of less soluble pads of adhesive. The wallpaper and endsheets appear to be amenable to mechanical lifting aided by steam.

**Spine treatment:** There is a very slight round, with no lining other than flesh-side leather remnants adhered to textblock spine with an unknown adhesive.

**Finishing:** None apparent.

**Titling:** There is an abraded fragment of paper label on spine, no lettering visible.

**Design:** The media appear to be in generally good condition, with some smearing that may have occurred during production. Underpainting is visible in some illustrations.

**Flaking, Cracking, Insecurity:** None.

**Losses:** None.

**Surface Coating:** There does not appear to be a surface coating on the design media, although it may have been burnished. The paper itself is sized and burnished. The paper is fairly absorbent, and forms tide lines when wetted.

**Solubility:** **Several, but not all colors were tested, as highly soluble pigments are present in all design areas.**

Color description	Location of test	Response to dry swab	Response to damp swab	Response to droplet
Blk. Calligraphic ink	Front endsheet	Not friable	No offset	No bleeding No offset
Red calligraphic ink	Front endsheet	Not friable	Offsets immediately	Bleeds
Red ballpoint	Under front endsheet	Not friable	Offsets	Offsets, no bleeding
Red cloth dye	Under front endsheet	Not friable	Offsets immediately	
Green wallpaper	Under front endsheet	Friable	No offset	Absorbent only in matte areas
Blk. Watercolor	p. 14, Bear	Not friable	Offsets immediately	
Yellow watercolor	p. 14 bear	Not friable	Offset after 5 sec.	
Brown watercolor	p. 63, tortoise	Not friable	Offset after 5 sec	
Orange watercolor	p. 63, tortoise	Not friable	Offset immediately	

**Miscellaneous:** The manuscript emits a distinctive, sweet/rancid odor.

**Mechanical Damages**

**Tears:** Signatures are torn at the folds.

**Old Mends:** Numerous old mends exist. Mends are made of handmade, laid paper. They are functional, securely attached with an unknown adhesive, and do not appear to be damaging the manuscript. In a few instances, the mends extend across several folios and may interfere with disbinding.

**Losses:** Losses are abundant, especially at head and tail of signatures, due to insect consumption. Numerous old fills, made of handmade, laid paper, exist. There are also losses from insect damage in all layers of the board covering materials.

**Abrasion:** Board covering materials are abraded.

**Embrittlement:** The text paper remains flexible. The most brittle element of the document is the goatskin binding, followed by the pasteboards.

**Distortion:** Pasteboards are cracked and bent, possibly along overlapping areas of laminate used to shape the boards to the correct size for the binding. Insect tunneling may have also contributed to the distortion and weakness in some areas of the pasteboards.

**Treatment Proposal Summary:**

The primary goal of treatment is to stabilize the textblock so as to prevent further damage and loss. This can be accomplished by disbanding, guarding, mending and resewing the textblock with sympathetic materials.

It is strongly recommended that the manuscript be further stabilized by rebacking using the boards with which it is currently associated. While the primary layer of binding material for this manuscript is leather, it is recommended that a toned, textured, lightfast heavyweight paper be used for the rebacking. This type of paper will provide more strength and durability to the binding than thin-pared modern leathers. The heavyweight paper can be treated with a non-sticky microcrystalline wax to protect it, as well as to impart a sympathetic aesthetic.

Further protection for the manuscript can be provided by the creation of a custom, cloth-covered drop-spine box for housing and travel.

Several options for further conservation treatment are available, pending a deeper understanding of the manuscript, evidence regarding the original binding, and curatorial decisions regarding aesthetic, cultural and evidential characteristics to be found in the current binding.

**Examined by:** Beth Heller/Janet Ruggles

### **Treatment Proposal:**

1. Document collation thoroughly. Mark un-numbered leaves with graphite in upper corner, as on numbered leaves.
2. Disbind by removing thread and by separating tipped sheets mechanically and through the controlled local application of moisture. Preserve all fragments.
3. Remove leather and adhesive fragments from signature folds with gentle mechanical means.
4. Lift endsheets from boards via minimal controlled introduction of moisture and heat to loosen adhesive.
5. Wash endsheets, or mechanically reduce adhesive residue as much as possible if water-soluble inks are present.
6. Humidify endsheets and dry flat, preserving impressions.
7. Guard torn signatures with acrylic-toned and methylcellulose-sized Japanese paper and wheat starch paste, in preparation for sewing through the folds.
8. Mend tears and fill worm holes with Japanese paper and/or paper pulp and wheat starch paste, as needed for most vulnerable areas. Tone fills to match surrounding paper. Leave functional old mends in place as artifactual record, except where they interfere with disbinding.
9. Return to SDMA for digital reproduction while disbound.
10. Reback using original boards:
11. Resew textblock with new, acid-free handmade paper endsheets, toned, sized and burnished to be sympathetic to original paper, using waxed 35/3 linen thread to control swelling.
12. Consolidate textblock by sewing through a laminated Japanese paper and linen overhanging spine lining.
13. Consolidate delaminating boards with paste, while leaving 2cm area along spine edge for insertion of new spine covering and hinge material.
14. Insert overhanging linen into slots in delaminated board nearest inner side of board.
15. Reback with toned, sized heavyweight Cave paper, with 10 pt. spine stiffener.
16. Integrate leather spine fragment into the new spine piece, keeping it as intact as possible.
17. Consolidate remaining board delamination.
18. Consolidate and mend corners.
19. Cover inner hinges with sized, toned and burnished Japanese paper, for strength and visual integration.
20. Consolidate paper spine wrapper, if used, with SC-6000 wax to match gloss of remaining leather fragments.
21. Inpaint mended areas as needed to diminish visual disturbance.
22. Paste down new endsheets.
23. Create custom housing for storage and travel, using heavyweight board and paper-lined cloth.

*“Then says the author may god have mercy on him...let him then commence to gather the sections the one to the other and bundle it...and place it up on a smooth stone that is solid for the beating....in the hammering is a great secret. So should you become initiated upon this benefit, oh binder, ask Allah for me for mercy. Perhaps Allah will favor me with his mercy.” -From Islamic bindings and bookmaking, quoting Ibn Badis about sewing (p.47).*

## Treatment Report

1. Pages of the manuscript were collated, and numbering was added to un-marked leaves, using the designation “x-“ as a prefix.
2. Sections were separated by cutting remaining thread fragments. Thread fragments were retained in a fragment file.
3. Tipped leaves were released mechanically and with local application of steam.
4. Insect debris and accretions in the gutters were reduced mechanically.
5. Adhesive residue along tipped edges was reduced as much as possible with controlled local application of water, by swab.
6. Small creases were flattened locally with controlled local application of moisture in methylcellulose poultice, by swab, and were dried locally under weight.
7. Endsheets adhered to boards were released with local application of steam.
8. Additional pasted endsheets were revealed. These endsheets were left adhered.
9. A small area of wallpaper turn-in was lifted to reveal unfaded marbled paper, as requested by curator.
10. Severely insect damaged and embrittled areas of the endsheets were faced with BEVA film to assist in safe removal from the boards.
11. In areas where endsheets were adhered to dyed red cloth, some bleeding of the cloth dye occurred. This was reduced as much as possible with a local application of methylcellulose poultice by swab.
12. Remaining cloth tabs were released from the lifted endsheets mechanically, and with controlled local application of moisture.
13. Adhesive residue on the lifted endsheets was reduced as much as possible with local application of methylcellulose.
14. Endsheet 2, which is a blank sheet, was washed by immersion, to further reduce adhesive residue.
15. Endsheet 1, which holds water-soluble calligraphy, was blotter-washed, and subsequently float-washed, to further reduce adhesive residue.
16. Both endsheets were air dried on a rack.
17. Separated leaves were guarded into folios with acrylic-toned Japanese paper and wheat starch paste.
18. Edge tears and areas of severe insect damage of text leaves and endsheets were mended with toned Japanese paper and wheat starch paste.
19. Areas of loss in the endsheets were filled with handmade abaca paper (Twinrocker) and wheat starch paste.
20. The guarded folios were reassembled into sections, and collation was checked to prepare for sewing.
21. The sections were sewn on linen tapes and with 3 link-stitch stations, with loose Japanese paper guards on the first and last sections, and with 35/3 linen thread.
22. The sewn manuscript was returned, without boards, to SDMA for digital reproduction.
23. Adhesive residue on boards was reduced as much as possible with methylcellulose poultice.
24. The leather spine fragment was removed mechanically.
25. The spine fragment was lined with Japanese paper and wheat starch paste, and dried on a dowel, under tension.

26. A new spine piece was constructed with handmade, walnut-dyed paper (Cave) and heavyweight Japanese paper (Hiromi).
27. The sewing tapes were adhered to the loose guards with PVA.
28. A heavyweight Japanese paper hollow tube was adhered to the loose guards with PVA.
29. Covering material at the hinge was lifted mechanically from head to tail by 2 cm.
30. Remaining endsheet pastedowns were lifted mechanically from head to tail by 2 cm along the gutter.
31. The lifted endsheets were mended with lightweight Japanese paper and wheat starch paste, and were filled with medium weight Japanese paper as needed for additional support.
32. The guards, tapes and hollow tube ends were adhered to the inner boards with 50:50 PVA:wheat starch paste mix, and were dried under weight.
33. The new spine piece was adhered to the outer boards with 50:50 PVA:wheat starch paste mix, and was dried under tension.
34. The lifted endsheets were re-adhered with wheat starch paste and dried under weight.
35. The lifted cover material was re-adhered with wheat starch paste, and dried under weight.
36. Polyester sheeting was used to create a simple handling package for protection of the rebound volume.
37. A custom cloth-covered drop-spine box with cradle insert was constructed from archival-quality binders board, paper-lined linen book cloth, and PVA.

## Annotated Bibliography

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Considered to be the primary text on the subject. It does not, however, address bookbinding in India, nor does it touch on the vernacular. Page 31 lists standard paper sizes in historic Islamic papers, none of which appear similar to the Binney. Pages 47-72, however, describe the evolution of binding structures and materials. Knowledge of these structures will assist in identifying the original Binney binding, as well as similarities with the current structure, such as evidence for 2 station link-stitch sewing, an inadequate board to text attachment consisting of simply pasting down the end sheets onto a laced-case structure or simple case structure, and a lack of spine linings.
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Not yet found.

Contadini, A., Convener, “Arab Painting: text and image in illustrated Arabic manuscripts”, Conference, September 2004, School of Oriental and African Studies, University of London

Diringer, D., *The book before printing: ancient, medieval and oriental*, Dover Publications, Inc., NY 1982

Within the section “The Hand-Produced Book”, pages 354-355 contain a discussion of the complexity of Indian culture as it applies to language and scripts. Most significantly, it leads with the following: “The problems connected with the history of the Indian ? are so vast and complicated that it is impossible to deal with them in detail in this book.” Diringer goes on to discuss the convolutions of languages and the many ways in which they can be expressed in different scripts. This paragraph assists an understanding of how the Binney Ms can be written in a localized Indian dialect of a Persian language using an Arabic alphabet. Note: the matter is further complicated by the fact that the Binney Ms is a translation of the text from an Arabic language.

Page 357 briefly mentions that one type of ancient Indian religious book is called the Vedangas, or Vedic supplements, which deal with such subjects as astronomy and astrology. This is interesting and relevant to the Binney MS in that the Arabic text from which it was translated may itself have had its origins in an ancient Indian religious text exported to the Islamic world. Page 368 states that the Arabic-Persian script and language was brought to India during the 11<sup>th</sup> and 12<sup>th</sup> conquests by Moslems, and became “a competitor to Sanskrit and its script, Devanagari, as the main literary language and the lingua franca.”. Further, Diringer states that “Hindi and Gujarati are the most important Indian vernacular literatures” of the Northern and Western parts of India, relevant in that it is hypothesized that the Binney ms is of the vernacular rather than religious type.

Page 364 discusses the transition from the use of palm leaves to paper, and states that the most recent dated palm-leaf mss are from 1400-1449 in Western India, although palm leaves were used in Eastern India until the early 19<sup>th</sup> c.

Ettinghausen, Richard, “Near Eastern book covers and their influence on European bindings. A report on the exhibition “History of bookbinding” at the Baltimore Museum of Art, 1957-58”, *Ars Orientalis*, Vol 3, 1959, pp. 113-131.

See entry for Michelet

Frost, G., Book Conservator, Center for the Book, Iowa, Personal Communication via email, March 2006

Consultation regarding conservation strategies.

Gacek, A., Head, Islamic Studies Library, McGill University, Personal communication via email, February 2006, [adam.gacek@mcgill.ca](mailto:adam.gacek@mcgill.ca)

I was referred to Mr. Gacek via McGill’s website documenting their exhibit “Celebration of scribes, scholars and conservators: Persian manuscripts”, 2005. Mr. Gacek was unable to shed any light on the current topic, but referred me to his published works:

Gacek, A. , *Arabic Manuscripts in the Libraries of McGill University*, Union Catalogue, McGill University Libraries, [Fontanus Monograph Series](#) #1 , **Cloth 0773513809**, 1995-08-03

Gacek, A., *Persian Manuscripts in the Libraries of McGill University* , Brief Union Catalogue, A descriptive catalogue of a rich collection of Persian manuscripts unique in Canada., [Fontanus](#)

Greenberg, S., Coordinator of Public Services, National Library of Medicine, Bethesda, MD, Personal Communication via telephone, April 2006, [greenbes@nlm.nih.gov](mailto:greenbes@nlm.nih.gov)  
Mr. Greenberg described the current state of the manuscript collection, stating that all of the volumes were rebound in red leather, during the 1940s emergency relocation of the collection from Maryland to Cleveland as the result of fear of submarine attacks. He expressed regret at the decision, and urged me to recommend retention of the current Binney binding, as so few such bindings are likely to have been retained in the past.

Additionally, Mr. Greenberg referred me to the NLM shelf list, to be found at: [www.nlm.nih.gov/hmd/pdf/shelflist.pdf](http://www.nlm.nih.gov/hmd/pdf/shelflist.pdf), especially for comparison with WZ 225 Q22a 1537 and WZ 225 Q22z 1701a, versions of Marvels of Things Created, a natural history manuscript.

Goswamy, B. N., English translation of Binney Ms colophon  
Not yet received

Hendley, T. "Persian and Indian Bookbinding", Journal of Indian art and industry, London, Griggs and Sons, 1893

Hunter, D, Papermaking by hand in India (SDPL reading room)

Husby, S., "Islamic book conservation", The Book and Paper Group Annual, Vol. 9, 1990, Accessed via internet, 1/24/2006, <http://aic.stanford.edu/sg/bpg/annual/v09/bp09-07.html>

This very useful discussion of conservation strategies, as applied to the Henri Vever Collection at the Smithsonian Institution and Arthur M. Sackler Gallery, was followed closely in deciding upon a treatment for the Binney Ms.

Unknown author, "The art of the book: preserving Islamic manuscripts at the Walters", IMLS: A closer look: highlights of the month, Accessed via the internet, 1/24/2006, [http://www.ims.gov/scripts/text.cgi?closer/archive/hlt\\_c1101.htm](http://www.ims.gov/scripts/text.cgi?closer/archive/hlt_c1101.htm)

A discussion of conservation and exhibit of a selection of rare Islamic manuscripts from the Walters Art Museum of Baltimore. Priscilla Anderson and Abigail Quandt report on the condition of the manuscripts and various treatment decisions.

INTACH Heritage News, May 2006 newsletter, delivered via email

Jacobs, D. and Rodgers, B., "Developments in the conservation of Islamic manuscripts at the India Office Library, London", Restaurator, Vol. 11, 1991, pp.110-138.

Along with an article by Scott Husby, this article formed the basis of the current treatment proposal for the Binney ms.

James, D., Qur'ans and bindings from the Chester Beatty Library. A facsimile exhibition held at the Islamic Cultural Centre, London, October-November, 1980.

See entry for Michelet.

Khan, Y., Conservator, Library of Congress, Personal Communication via telephone and email, April 2006.

Consultation regarding binding structures contemporary to the Binney ms. Ms. Khan strongly suggested that the current binding on the Binney ms is not the original binding, and that the use of the leather cords for sewing may have been an imitation of British colonial aesthetic without understanding the reasons behind their use in book structure. She further suggests that the current binding is probably no earlier than a 19<sup>th</sup> c. example of a lesser quality Indian ledger binding style influenced by Britain, and that the original binding would have been of better quality and probably would have been full leather. Additionally, she states that the repairs seem typically Indian or Persian; that the gutter is too narrow for the calligraphy to have been done in a pre-fabricated ledger; and that when rebacking it would be useful to give the boards about 1/8" "breathing space" to protect the first and last sections, and to add a spine stiffener.

Kuchel, D., Wallpaper scanning, The Book and Paper Group Annual, Whatever year it was in Portland.  
Kuchel, D., Wallpaper scanning, AIC Newsletter, Vol. 27, No. 6, online.

Laurie, A.P., "Materials in Persian miniatures: The Pigments", Technical Studies, Harvard, Vol. 3, July 1934-April 1935, Garland Publishing, Inc., NY, 1975, pp. 146-155.

Losty, J. The art of the book in India, London, British Library, 1982

McKay, A. and Pugh, S., Unpublished work. Difficult decisions in the conservation of "The Book of Curiosities", a 13<sup>th</sup> century Islamic manuscript. Bodleian Library, Oxford. By personal communication from Sabina Pugh, [sp@bodley.ox.ac.uk](mailto:sp@bodley.ox.ac.uk)

Metzger, C., Lecturer in Book Conservation, Kilgarlin Center for Preservation of Cultural Property, University of Texas, Personal Communication by email and in person, January-April 2006  
Consultation regarding conservation strategies, as well as identification of marbled paper and wallpaper sides. Chela referred me to Olivia Primanis, and to articles by Jan Paris, Paul Banks, and Glen Ruzicka, and provided a number of questions that needed to be answered in order to begin examination of the manuscript.

Michelet, J., A loan exhibition of Islamic bookbindings, The Oriental Department, The Art Institute of Chicago, March-May 1932.

An examination of this catalogue, along with other similar catalogues, for 17<sup>th</sup> and 18<sup>th</sup> century bindings, finds that in all exhibited manuscripts, the bindings consist either of full leather or lacquered boards, elaborately decorated. This suggests either that the Binney Ms was also originally bound in a similar manner, or that less elaborate bindings are not found in museum collections and/or exhibitions. It may be more likely that similar contemporary bindings would be found in archives and libraries.

Ogden, L. and Brown, M., "An experimental book structure for conservation", The Book and Paper Group Annual, Vol. 17, 1998, Accessed via the internet, 3/2/2006,  
<http://aic.stanford.edu/sg/bpg/annual/v17/bp17-12.html>  
A description of a non-adhesive sewing structure.

Ogden, S., Head Conservator, Minnesota Historical Society, St. Paul, MN, Personal Communication via email and telephone, February-April 2006

Consultation regarding possible conservation strategies. Shereilyn referred me to the Bosch and Petherbridge book, and to Gary Frost. She also assisted me in developing a strategy for my inquiries.

Paris, J., "Towards a codicology of bound archival volumes: conservation documentation and treatment of the Pinkes of Skuoda, Lithuania", Roger Powell, *A Compleat binder*, Bibliogica Vol. 14, 1996, p. 292-298

As the author states: "the volume's structural complexity did indeed present physical evidence of its evolution and life within the community." This article supports the decision to recommend stabilization of the current binding, rather than rebinding or stripping the most recent layers of cloth and wallpaper in favor of the leather and marbled paper.

"Although a precise definition of codicology is the subject of some debate...it can be characterized as the study of the manuscript book, in its method and context of fabrication." – Page 292.

Phillips, B, *Fabrics and wallpapers: sources, design and inspiration*, Little, Brown and Company, Inc. CAN, 1991

The glossary identifies and illustrates the popular Acanthus pattern: "stylized representation of jagged leaf of the acanthus plant, most common of all classical motifs". The Binney manuscript wallpaper sides appear to be an acanthus patterned paper.

Premchand, Neeta, *Off the deckle edge*, Oak Knoll Books

Primanis, O., Conservator, Harry Ransom Research Center, University of Texas, Personal Communication via email and in person.

Consultation regarding conservation strategies and materials, especially as relates to historic use of leather for sewing cords. Ms. Primanis also gave me an opportunity to examine the HRC Eastern manuscript collection. In addition, she referred me to Yasmin Khan, and to Don Kuchel, who authored several articles about preservation reproduction of wallpaper.

Olivia's recommendations for treatment include not attaching new end sheets, the use of a sewn-on linen spine lining, the use of laminated Okiwara or Kizukishi hollow tube, and the use of Lascaux 498 adhesive.

Purington, N. and Watters, M., "A study of the materials used by medieval Persian painters", *JAIC*, Vol. 30, 1991, pp. 125-144

Robinson, BW, *Persian paintings in the India Office Library: a descriptive catalogue*, Sotheby Parke Bernet Publications, New Jersey 1976

This book features beautiful photographs which assist in identifying style and period of various paintings. There are also some great photographs of 19<sup>th</sup> c. lacquer bindings.

Ruzicka, G., *Yemenite Taj*, *The Book and Paper Group Annual*, 1996, Vol.15, pp. 119-126

San Diego Museum of Art Contacts and Information:

Catalogue notes, from the Binney archives:

Ms was purchased from Origin antiquarian shop, Newberry St, Boston, MA, November 1, 1972, by Edwin Binney 3<sup>rd</sup>., \$800

Ms was acquired from above by SDMA August 27, 1990, by donation.

Binney acquisition notes, (SDMA copy), Aquis. No. Ms. 45

This typed 2 page note leads with the statement that “The major importance of this work is that it is the only known manuscript to come from Surat”. It further states that Brijen Goswamy was planning a published translation of the text, and that someone named “Cary” “said late and bad Deccani workmanship”. A pagination of the illustrations and charts follows the brief narrative.

Item No. 1990:0435, A Magician Conjures the Spirits, 1570-71, Bijapur, India, Deccani school. Digital photographs forwarded to BACC by Lili Perry, [lperry@sdmart.org](mailto:lperry@sdmart.org) for comparison with the Binney ms. Very little similarity found, with the exception of composition and burnish of the primary support.

Sonya Quintanilla, Asian Curator, SDMA, provided the reason, permission, and support necessary to pursue this project. [squintanilla@sdmart.org](mailto:squintanilla@sdmart.org)

Dana Bottomley, Registrar, SDMA, [dbottomley@sdmart.org](mailto:dbottomley@sdmart.org), patiently discussed deadlines and housing structures for the Binney ms. in preparation for exhibit and travel.

Saunders, G., Wallpaper in interior decoration, Watson-Guption Publications, NY, 2002

A well-illustrated history of wallpapers, the study of which suggests that the wallpaper used for the 3<sup>rd</sup> binding of the Binney manuscript could be a mid-19<sup>th</sup> century flocked pattern. See particularly the illustration on page 104 of an 1851-9 sample book of flocked and blocked papers.

Also of interest, is the following excerpt: “It seems that wallpapers were classed as a minor product and thus carried as “private trade”, not separately recorded in inventories and bills of shipment”, explaining why there are no references to trade in wallpaper in the India Office archives.

The author discusses flocked papers in some detail, dating the earliest flocks to 1715; stating that turpentine was used in the adhesive which fixing the flock (p.55,); that small scale patterns tended to be used for small private rooms (p. 56); that flocked paper was more expensive than regular wallpaper, so samples found now come from wealthy homes (p.58); and that 19<sup>th</sup> c. flocked papers were blind-stamped to create an embossed finish (p. 59); and, finally, that flocked papers were generally out of fashion by late 19<sup>th</sup> c. (p 60).

Savage-Smith, E., PhD., Oxford, Personal Communication via email, March 2006

Ms. Savage-Smith is an authority on Islamic scientific texts and has written and lectured extensively on the subject of Islamic astronomical manuscripts. Her work for the National Library of Medicine’s online catalogue of Islamic medical manuscripts was particularly helpful in persuading me to switch my line of inquiry from museum collections to archives, as more physical similarities were to be found between the Binney ms and natural history mss than were found with museum collections of ornate Qu’rans and other sacred texts.

Ms. Savage-Smith directed me to contact Sabina Pugh, Conservator at the Bodleian Library, London, and Philip Teigen, Deputy Chief of the NLM. Mr. Teigen, in turn put me in contact with the NLM curator, Stephen Greenberg (?).

Savage-Smith, E., PhD, “Medieval Islamic views of the cosmos: ...book of curiosities”, The Cartographic Journal, 2004, Vol. 41, pp. 253-9

Skelton, R., PhD., London, Personal Communication via email, April 2006, [robertskelton@blueyonder.co.uk](mailto:robertskelton@blueyonder.co.uk)

Dr. Skelton began his correspondence regarding this ms with Sonya Quintanilla, SDMA curator, and graciously continued it with this author. He has been particularly helpful in placing the ms in social and political context, and provided a list of possible resources, not yet accessed by this author. These include:

- Schmitz, B., ed., *After the great Mughals*, Mumbai, 2001
- Catalogue, Christies, London, 11 June 1986, lot 153
- Beveridge, H. & Prashad, B., *The Ma'athir ul Umara of Shah Nawaz Khan*, Vol. 2, Part 2, pp. 950-1 for a discussion of Tegh Beg Khan Mirza Gul, for whom the ms was written)
- Das Gupta, A., *Indian merchants and the decline of Surat c. 1700-1750*, Delhi, 1994, p. 209ff
- Das Gupta, A., "Trade and politics in eighteenth century India", in Richards, D.S., ed., *Islam and the trade of Asia*, Philadelphia, 1970
- Subrahmanyam, S. & Muzaffar, A., eds. *The Mughal state 1526-1750*, Delhi, 1998, p. 370ff

Dr. Skelton suggests that the illustrations were painted in "what might be termed a type of sub-imperial or bourgeois painting continuing vestiges of pre-Mughal Sultanate styles being carried on in local workshops". He also states that he is very familiar with the Chester Beatty Library, Dublin version of a 16<sup>th</sup> c. *Nujum ul' Ulum*, which is the manuscript that most experts consulted on this project seem to suggest as a comparison document. (I was under the impression that a *Mirat ul Nujum* existed at the Beatty, but have not yet been able to confirm this.) Skelton further states that the SDMA has a folio from a 17<sup>th</sup> c. Beatty *Nujum* (1990:0435). and that the Wellcome Library, London, has a portion of the Beatty *Nujum*. The Wellcome ms can be viewed at <http://library.wellcome.ac.uk/node8000005.htm>

Smith, M., "The conservation of Islamic book pages", *The Book and Paper Group Annual*, Vol. 9, 1990, pp. 118-119.

Szirmai, J. A., "Archeology of bookbinding", *The New Bookbinder*, 1992, pp.67-79

Teigen, P, Deputy Chief, History of Medicine Division, National Library of Medicine, [pteigen@nih.gov](mailto:pteigen@nih.gov),  
Personal communication via email, March 2006

Dr. Teigen referred me to Conservator Anne Whitaker, and to Stephen Greenberg at the NLH

Quandt, A., Conservator, The Walters Art Museum, Personal Communication via email, March 2006  
Ms. Quandt directed me to consult Priscilla Anderson and Scott Husby. She noted that Paul Hepworth had been the conservator of the Walter's Islamic mss until he recently relocated to Turkey.

Wellesz, E., "An early Al-Sufi manuscript in the Bodleian Library in Oxford: a study in Islamic constellation images", *Ars Orientalis*, Vol 3, 1959, pp. 1-27, 76 plates

Useful for comparison of the Binney ms with that of an earlier, very famous and frequently referred to Arabic astronomer. Page 5 quotes Al-Sufi regarding the use of mirror illustrations of the constellations: "For on globes, as al-Sufi explains...they appear as seen from above...but in the sky...we see the stars in their true position, because we look upwards from the centre of the

globe. And it is for this reason the we have included both positions, for otherwise the beholder might be confused if he saw the figure on the globe differing from what he sees in the sky.”

Al-Sufi’s “Kitab suwar al-Kawakib al-Thabita (The book of the constellations) has been discussed and examined in a variety of other scholarly papers and publications, and was reproduced widely.

The article also includes an extensive comparison of Arabic constellations with Western ones, especially as described by Ptolemy (Greek, c.90-168). Pages 8-10 compare Islamic and Greek iconography, including the following constellations that appear similar to those found in the Binney ms. Wellesz also wrote about the “islamization” of the drawn figures. It would be interesting, perhaps, to trace the changes from Greek to Islamic to Indian illustrations.

- Cepheus, “the flamboyant”, has a human figure with a red pointed “Phrygian” cap, with one knee bent and arms extended upward
- Cassiopeia – “woman with a seat”, “dhat al-kursi”
- Perseus – Bearer of the demon’s head, “al-ghul”
- Serpentarius or Psylle – serpent
- Lyra – Persian harp, cymbal, goose or tortoise
- Cygnus – “al-Dajajch”, bird, hen, swan

Wolfe, Richard, *Marbled paper: it’s history, techniques and patterns*, ISBN 0812281888

This beautiful book provides a great deal of detail about Western marbling, along with wonderful color plates. Although the book focuses on European marbling, there is a section titled “Marbling in the Middle and Near East” that is helpful as a basic understanding of the subject. Plates 26, 28, 30, 31 and 33 have illustrations of various Turkish, Portuguese, German and French spot and shell patterns that have similarities to the marbled paper of the Binney ms. None are dated earlier than the late 18<sup>th</sup> c, and are therefore not contemporary with the date of the manuscript itself. Comparison with the examples will help to narrow the date of the Binney marbled paper, and therefore an approximate date of the half-leather binding.

Plate 5: illustration 3 provides an example of Persian Somaki-ebru, an early spot pattern upon which later European spot patterns were based

Wright, E., PhD, Curator of Islamic Collections, Chester Beatty Library, [ewright@cbl.ie](mailto:ewright@cbl.ie), Personal communication via email,

Dr. Wright mentioned the existence of 2 versions of the *Nujum al Ulum* (In 02, 1570-71, and IN 54, 1660-80, both from Bijapur), as discussed above by Dr. Skelton, and cited one work in addition to the Beatty Library catalogue:

- Leach, L., *Mughal and other Indian paintings from the Chester Beatty Library*, Vols. 1-2, London, Scorpion Cavendish, 1995.

She also referred me to Jessica Baldwin, Beatty’s conservator, and to David Jacobs at the British Library, neither of whom has yet responded to my inquiry.

Other staff at the Beatty Library suggest consulting

- Arberry, A., *Handlist of Arabic manuscripts*, Vol. 8, 1955-66 for a description of the Beatty *Mirat ul Nu’jum*.

## Websites:

Conservator Sandhya Jain provides a comprehensive listing of relevant citations up to the point of last update of website, which date is not given. Accessed February, 2006.

<http://www.sandhyajain.com/art.html>

INTACH, the Indian National Trust for Art and Cultural Heritage

[www.intach.org](http://www.intach.org)

Jantar Mantar Observatory, Khagol Mandal Website, Last Update March 30, 2006, Accessed June 2006

[http://www.khagolmandal.com/index.php?option=com\\_content&task=view&id=5&Itemid=7](http://www.khagolmandal.com/index.php?option=com_content&task=view&id=5&Itemid=7)

This web article provides a history of Jai Singh II's extensive efforts in the study of astronomy, and construction of observatories across Indian in the 18<sup>th</sup> century.

National Library of Medicine, Islamic Medical Manuscripts

[http://www.nlm.nih.gov/hmd/arabic/natural\\_hist5.html](http://www.nlm.nih.gov/hmd/arabic/natural_hist5.html)

Survey on the Conservation of Asian Documents, Accessed February 2006

[www.bodley.ox.ac.uk/scad](http://www.bodley.ox.ac.uk/scad),

This website provides the results and analysis of a survey of preservation and conservation practices and needs in the UK, along with a unique variety of images, links, bibliography, and events that one hopes will continue to be expanded upon.

See especially MS Ouseley Add. 155, survey item 276, Indian, for comparison with the Binney manuscript.

Victoria and Albert Museum, Wallpaper Collection images, Accessed March 2006

[http://www.vam.ac.uk/collections/prints\\_books/Wallpaper/Flock\\_Wallpaper/index.html](http://www.vam.ac.uk/collections/prints_books/Wallpaper/Flock_Wallpaper/index.html) This page discusses the history of flocked wallpaper.

### **Future or Pending Contacts:**

Jessica Baldwin, Conservation Manager, Chester Beatty Library, Dublin, [jbaldwin@cbl.ie](mailto:jbaldwin@cbl.ie)

David Jacobs, British Library, [david.jacobs@bl.uk](mailto:david.jacobs@bl.uk)

Scott Husby, Rare Book Conservator, Preservation Officer, Firestone Library, Princeton University

Martha Smith, [marthasmith@asia.si.edu](mailto:marthasmith@asia.si.edu), 202-633-0374

Paul Hepworth, former conservator of Islamic mss at the Walters, now in Turkey, [paulpasha@hotmail.com](mailto:paulpasha@hotmail.com). He is presenting in Copenhagen in the fall, 2006.

Jonathan Bloom, Paper before print, Yale University Press, [Jonathan.bloom@bc.edu](mailto:Jonathan.bloom@bc.edu) (Boston College)

Shruti Asoka, Conservator, INTACH, [shkamath19@hotmail.com](mailto:shkamath19@hotmail.com)

Devendra Singh Bhadavria, Conservator, New Delhi, [museman-dev@hotmail.com](mailto:museman-dev@hotmail.com)

National Archives of India

National Library of India

**Acknowledgements:**

Many people patiently encouraged me and answered my ceaseless questions during this project. However, Janet Ruggles, Head Conservator and Director, BACC, wins the prize, whatever that may be, for her guidance and attention. I am grateful to Sonya Quintanilla for providing such wonderful opportunities to examine the works in the Binney Collection, and for her enthusiasm in discussing them. Christel Pesme, my fellow Fellow, helped me think things through. Sherelyn Ogden and Chela Metzger continued their mentorship long distance. Finally, I sincerely appreciate the funding from the Andrew W. Mellon Foundation that supported my Fellowship in Paper Conservation.

### Attachment 1: Collation Notes:

The manuscript opens right to left.

Boards are completely detached.

Sections are identified as leaves that are currently attached to each other, and do not necessarily reflect the original signature organization.

Leaves without a graphite numeral are identified as x1, x2, etc.

(t) indicates that thread is found in the gutter preceding this leaf.

r indicates recto, v indicates verso, as found proceeding from front to back of manuscript.

Front matter: Endsheets paste-down, with calligraphy

Section A: (x1, 2, 3, 4(t), 6, x2)

6 tipped to x2

Section B: (7,8,9,10,11(t),12,13)

Ill.: 11 r&v Dark gray/black bear

Chart: 12r

Section C: (14,15,16,17,20,18(t),19,21,22,23,24,25) Note – leaves out of order

21-25 tipped

Ill: 14 r&v, Lt. gray bear

17 r&v, Serpent

19 r, Man, yellow tunic

20 r, Man yellow tunic

22 r&v, Man, red tunic and baton

23 v, inset into text, double circle design

25 v, Bird, orange legs

Chart: 15r

18r

20v

23r&v

Section D: (26,27,28,29,30) all tipped together

Tidelines, possible mold, old mends

Ill: 27v Man, red pants

28r Man, red pants

Chart: 28v

Section E: (31,32,33(t))

31-32 tipped

Blank 31

Section F: (34,35,36,37,38) all tipped

34r half page

Blank 34v

35r

Ill. 35v Bird, blue throat

36r Bird, blue throat

Chart: 36r

37r&v

Section G: (39,40,x3(t),41)

Ill: 39r&v Woman in chair

x3v Man with severed head and sword

41r Man with severed head and sword (face is not the same as x3v)

Chart: 41v  
Section H: (42,43,44,45,56) all tipped  
Ill. 43 r&v Man w/purple tunic, whip and bridle  
Blank 44 r&v  
Chart: 45r

*Note: all sections from I-M, inclusive, attached via loose sewing*

Section I: (47,48,49(t),50)  
Ill 48 r&v Man w/serpent  
Chart 49 r&v  
50r, inset with text  
Section J: (51,52,53,54,55(t),56,57)  
52-53, 56-67 tipped  
Ill 51v Phoenix?  
52r Phoenix?  
Chart 52v  
Blank 53r  
56r  
Section K: (58,59,60(t),61,62,63)  
Old mend at fold, may be inner folio 63  
Blank 59v  
60r  
61v  
62r  
Ill 62v Tortoise, old mend at fold  
63r Tortoise, old mend at fold  
Section L: (64,65,66,67,68,69,70(t),71,72,73)  
68-69, 71-72 tipped  
Blank 64v  
66v  
67r  
72v  
73r  
73v  
74r  
Section M: (75,76,77(t),78,79,80,81)  
78-79-80 tipped  
Blank 78v  
81r, except for 1 line of text  
81v, except for notations in graphite, green pencil, red ink

## **Exhibit History**

Maintaining a record of the manuscript's exhibit history will assist in monitoring light exposure, which will, in turn, facilitate curatorial control over future exhibit exposure, thus prolonging the life of the volume.

1995	Ronald Reagan Library, Simi Valley, CA	3 months (Jan. – Mar.)
2005	San Diego Museum of Art, "Domains of Wonder"	4 months (Oct. – Feb.)
2006	Boston	
2007	Dallas	