

AN EXHIBITION AT THE LIBRARY OF THE ROYAL SOCIETY OF MEDICINE

Restoration for Research 2:

An update on book conservation at the RSM

7 August to 28 October 2017

A follow up to our 2013
exhibition Restoration for
Research

Admission free

Open to all

OPENING TIMES

Monday – Thursday: 9.00 – 21.00

Friday: 9.00 – 17.30

Saturday: 10.00 – 16.30



The Library, Royal Society of Medicine,
1 Wimpole Street, London, W1G 0AE

Tube: Oxford Circus or Bond Street



**The ROYAL
SOCIETY of
MEDICINE**

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Restoration for Research 2: Book Conservation at the RSM Library

This exhibition is a follow up to our 2013 exhibition “Restoration for Research.”

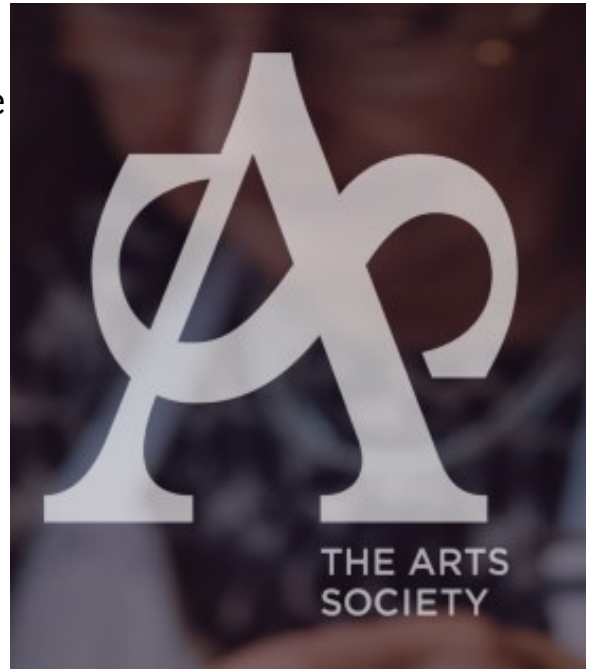
We want to highlight the book conservation work of the library especially that of our conservation volunteers, who each attend fortnightly and help keep our books in good enough condition to handle.

In addition to the volunteers, we use money raised from the Friends of the Library to pay for professional book-binding.



Our volunteers all belong to The Arts Society (formerly known as NADFAS – the National Association of Decorative and Fine Arts Societies.)

The Arts Society is a leading arts education charity with a global network of 385 local Societies, which brings people together through a shared curiosity for the arts.



Their events provide welcoming places – locally, nationally and globally – to hear expert lecturers share their specialist knowledge about the arts.

“90,000+ members contribute to and preserve our artistic heritage through volunteering and grants. Their strength is their people, joined together by a passion for the arts which can nourish and empower us all. Our work creates a better, healthier and more connected society.”
www.theartsociety.org

Each of our volunteers has attended the Arts Society book conservation training. In addition, the RSM Library arranges refresher sessions annually for everyone, staff and volunteers, to brush up their skills, learn new ones and generally review how things are going.

We have to thank Caroline Bendix, Freelance Conservator, (bendixlibraryconservation.com) who delivers the training and advises staff and volunteers.

A big *thank you* from the staff at the RSM Library goes to the following, who have worked hard on our collection since 2006, without whom many books would have become unusable and unmanageable.

Current Volunteers:

Fiona Enthoven,
Inka Butler,
Jan McCroddan,
Rita Owen,
Naomi Cream,
Jean Bowyer Brown,
Viorica Bergman,
Mary Chibnall,
Mara Prengler,



Freelance Conservator:

Caroline Bendix

Past Volunteers:

Julie Shaw,
Roger Mills Hicks,
Arthur Alvarez,
Rica Hene,
Alison Langley,
Ian Howie.



What the volunteers do (and what they don't)

Books that are handled well, but often, will inevitably suffer some damage but rarely do they need re-binding. Books handled badly could sustain damage that impairs the structure of the book but a lot can be done without the need for a full rebind.

The aim of the work of the volunteers is to stabilise the condition of a book so that it remains easy to handle without causing further damage.

Not all damage can be reversed or improved so, sometimes, a very damaged book will be boxed or given a protective covering in order to keep it together and clean.

Types of repair carried out by volunteers:

Cleaning of books, mending spines and corners, repairing page tears, leather dressing, boxing, tying, jacketing

It is important to note that our volunteers do not do bookbinding. That is a much more involved process (and not necessary in many cases). If the book is deemed important enough, it might be considered at a later date for re-binding but a lot of factors may contribute to the decision as to whether this happens.

Friends of the Library

The Friends of the RSM Library is an initiative the Library started several years ago. It offers RSM members and the public who wish to support the conservation and restoration of our collection the chance to do so.

Money raised by the Friends is used in the following ways:

- To purchase conservation material.
- To fund the cost of conservation.
- To ensure continued preservation of our collection.

We offer the opportunity to become a Friend of the Library either as an addition to your membership or for anyone who wishes to support our vital work.

Why do we need to conserve our books and journals?

All material naturally degrades through time, and conservation work is often needed to stabilise fragile components and slow down this process.

This intervention enables valuable sources on the history of medicine to be accessed safely for generations to come. Conservation work can range from light cleaning to more intensive specialist treatments and we need your help to ensure that each object designated as in need of care gets the vital attention it requires.

Books Rebound using Friends funds 2017

Since the launch of the Friends of the RSM Library in 2011 we have been able to send 68 items in need of serious repair and rebinding to the binders to have them restored.

Without the generous donations by the Friends we would not have been able to have these items restored. Some of the volumes sent are listed below:

GRAY Henry

Anatomy: descriptive and surgical.

10th edition

London, Longmans, Green, 1883

2 x Copies of HUNTER John, 1728-1793

A treatise on the blood inflammation,
and gun-shot wounds, 1794

ROYAL MEDICAL AND CHIRURGICAL SOCIETY OF LONDON

Catalogue of the Library of the Royal Medical and Chirurgical Society of London.

Vol.1 & 2 Catalogue of authors A to L. 1879

and

Vol.1 & 2 Catalogue of authors M to Z. 1879

QUAIN Jones [1796-1865]

The elements of anatomy. 3rd edition, 1834

Royal Commissions

The RSM's collection of Medical Royal Commissions were in a very sorry state.

They had decayed over the years due to the low-quality paper used in printing and binding them.

Our volunteers from the Arts Society worked tirelessly to conserve these items. They have cleaned, repaired, boxed, tied and stabilised the items as required.

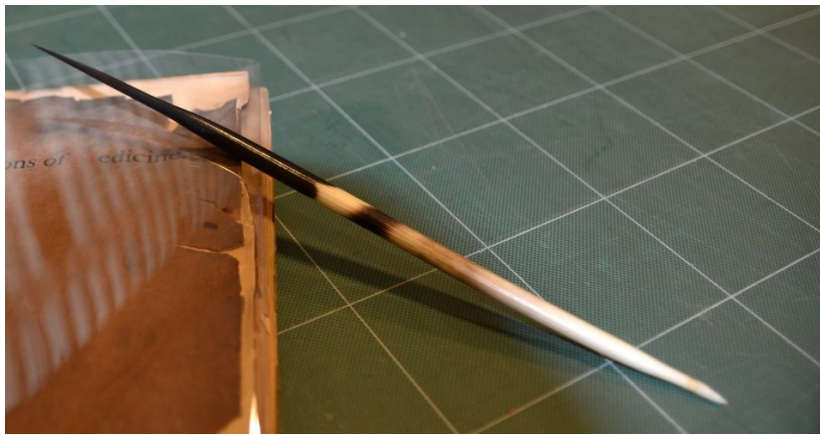
Now, after a lot of hard work, they are nearly complete and the difference in their presentation and accessibility is clearly visible on their shelf in the Library Basement.





Equipment: Porcupine Quills

The RSM Library has been working alongside the Arts Society to preserve, conserve, maintain and repair our extensive collection of rare books and periodicals. One of the most exotic items of equipment used in our conservation work is the quill from a porcupine. These long strands of hair coated in keratin are perfect for a variety of jobs that make our conservation work a lot easier.



Relaxing Leaves:

The most common use our volunteers have for porcupine quills is to relax pages that have been left folded over for many years. The creases created by these folds can be relaxed by hand but, in a lot of cases, using your fingers can cause damage. The paper can be brittle due to high acid content or advanced age so it is not always advisable or safe to relax the paper by hand.



This is where a porcupine quill comes in useful - their smooth round shape and tapered body makes them perfect for sliding under the folded leaves and gently turning them back over until they once again lay flat.



The quills permit us to unfold the paper and coax it back into place. Once the folded paper has been carefully laid flat, we can use the rounded shape of the quill to flatten it to a certain degree. To make this a permanent repair, however, we have to use two other tools; Japanese calligraphy water pens and a bone folder.

The Japanese water pen is used to lightly brush a miniscule amount of moisture into the crease. The amount of water transferred from the pen to the fold is barely visible to the human eye but makes a great difference to the work about to be performed. The water softens the fibres of the paper, relaxing them on a microscopic level that will help us with the next step of repairing the crease.



The last stage in relaxing a crease in the page of a book is to use a bone folder. These are simple dull-edged hand tools with rounded edges that make them perfectly suited for folding and creasing paper in a variety of crafts; from origami and dressmaking to bookbinding, or in this case conservation. As the name implies, they are made from the leg bone of a cow or deer or similar animal. Synthetic alternatives do exist but these are prone to leave residue behind, marking the page. They also tend to be less robust, shattering under the pressure required to form a crease or smooth out an unwanted fold.



The bone folder's long edge is rubbed firmly along the length of the crease, first on one side then the other. This pressure, coupled with the slight layer of water (now soaked into the fabric of the paper), relaxes the crease. After a few minutes of work, the crease will have relaxed entirely and the paper will now lay flat with little to no evidence remaining that the page was once creased.



Split Hollows: the Curse of Modern Binding

One of the many types of repair performed by the RSM Library's team of volunteer conservators is the fixing of hollow spines on books.

A hollow spine is a binding feature that became popular at the beginning of the 19th century. This new type of spine was invented to enable binders to use book-cloth for the cover of books instead of leather or vellum. These materials are much more flexible, allowing the covering material along the spine to be stuck directly to the text-block so that when the book was opened the whole thing could bend together as one piece.



The image (above) shows a copy of the *History of the Royal Society of Medicine* by Penelope Hunting published in 2002 which has a hollow spine.

The trouble with this new “hollow spine” however is that the binding is attached to the book by two hinges.

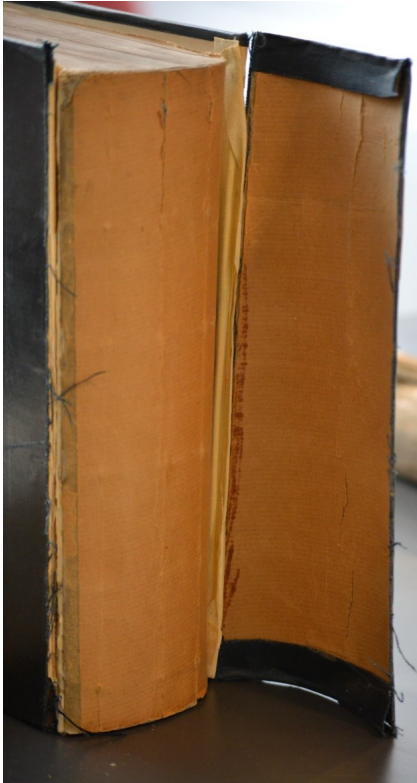
The publishers who adopted this type of binding also started using inferior materials as a means to cut down production costs. Though sturdy and quite hardy when first published, the materials will slowly destabilise the structure of the book. This is due to the high level of acid in the paper, leather or cloth. Compare the below image and note how different the spine appears from the History of the RSM.



As you can see in this image of one of the RSM Library’s Incunabula, Girolamo Manfredi’s, *Liber de Homine*, (1474), the spine is solid with the textblock fixed directly onto the piece of leather that forms the spine.

This is a very sturdy construction, though obviously expensive, but it gives strength and structure to the book that has lasted for over five hundred years.

‘Incunabula (the term for a book printed before 1501)’



The structural weakness of the hollow spine can lead to wear and tear in the hinges that hold the boards and spine in place. This damage can be caused by a variety of means, not just the inherent weakness in the materials.

Mishandling of the book by tugging on the spine to remove the volume from a shelf will put a lot of stress on the spine until it tears. Deteriorating leather or cloth bindings will wear away at the hinge until, inevitably, it gives way.

As can be seen in the accompanying image, this damage leaves the book in a very vulnerable state. With the hinge separated, the spine of the text-block is now exposed to damage. The boards may become detached entirely and, if left on the shelf, the spine may eventually fall off and be lost.

The RSM Library has instituted a conservation programme to preserve and protect these vulnerable volumes.



Due to the large volume of items held in the Library collection, nearly a quarter of a million printed volumes, it is impossible to get to every vulnerable item before it suffers damage.



To combat this unavoidable decay, the RSM Library instituted a series of collection boxes for Fellows and Staff. When bits of books are discovered, they can be collected and kept safe in the boxes.

Keeping them with the book on the shelf, though preferable, is dangerous and risks losing the part if it cannot be treated immediately. So, the safest place to keep these spines until they can be repaired is in these acid free storage “bit” boxes.



When the books are ready for treatment, RSM Library staff can reunite the spines with the books. Then, using a simple treatment involving paper and glue, they can be re-attached.

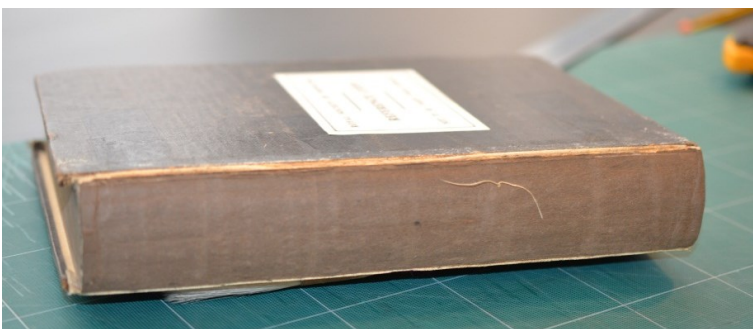
Repairing a Hollow Spine

Repairing a *Hollow Spine* is one of the many repairs the Arts Society Volunteers perform at the RSM Library. The following example is a bound



volume of the *American Journal of Physiology* from 1932. The entire spine covering has split and come away from the book.

As you can see in this internal shot of the detached spine, the paper interior is the same colour as the exposed binding on the volume itself. This paper would have originally been a single tube of paper holding the spine in place. It has become split along the entire length due to age.

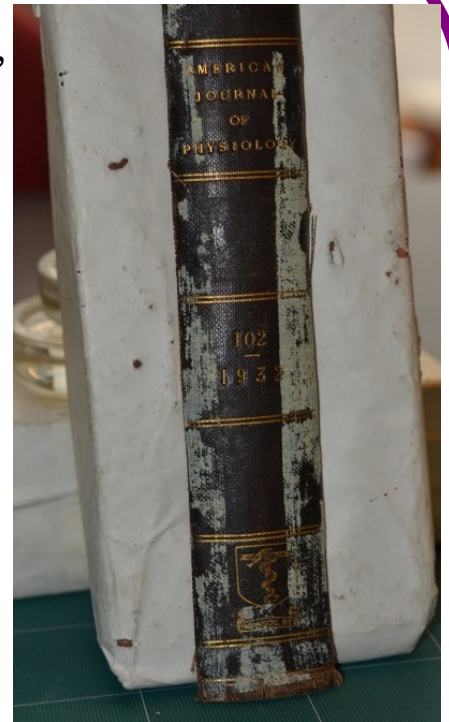


This is an extreme example where the entire spine has become detached but, even if only part of the spine had become split, the

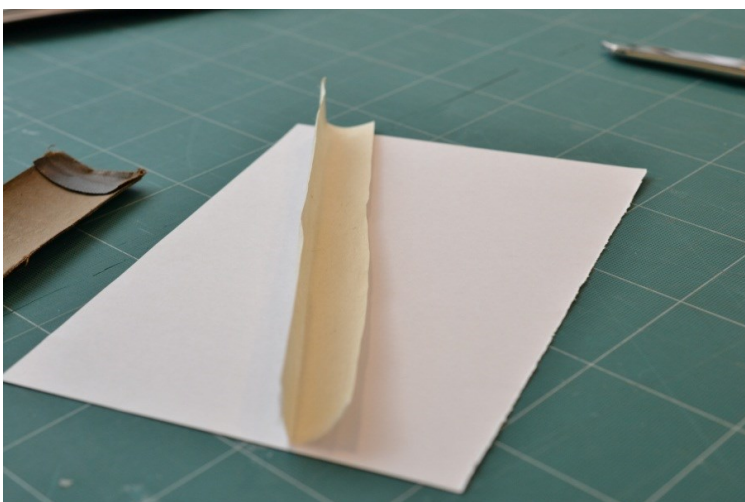
repair is almost the same. This type of damage is referred to as a **“Split Hollow.”** Though we cannot re-attach the original paper and make it whole again, we can create a new hinge which will hold the spine in place.

As you can see in the adjacent photographs, the spine has become discoloured by the residue of an earlier Sellotape™ repair.

Sadly, there is no way to remove this stain from the leather but, as the spine is still intact, it can still help to defend the binding from damage and identify the volume if it is re-attached.



The first thing that has to be done is to measure out a strip of hand-made paper to become our first hinge. It has to be about two inches thick and slightly shorter than the “turn in,” the leather strips that turn down on the interior of the spine.



Once the new hinge has been cut out, it has to be folded in half. This hinged piece of Japanese tissue paper is now ready to be attached to the book.

Using paste made from wheat starch and water, one side of the hinge is pasted and stuck against the spine of the volume. It has to be carefully placed so the hinge is just on the edge of the spine but not touching the boards of the book.



Once the hinge is in place, and the glue appears to be holding, a strip of grease proof paper is slipped between the two parts of the hinge - this is to make sure the free part of the hinge does not become stuck to the currently damp and pasted part.



Once the hinge has been secured, we wrap the book up tightly in a bandage. This helps to hold the paper in place whilst the paste is drying and stops it from moving, or peeling, away and ruining the

work. This is then left for about thirty minutes to dry. It is then unwrapped and we can begin the process of attaching the spine to the hinge.

After the paste has dried, the bandages are removed and the remaining, unstuck, part of the hinge is prepared for pasting.



To protect the volume (and to make sure paste does not get beneath the hinge and stick to the interior), we pop a piece of scrap paper underneath to catch any glue that escapes the hinge whilst we are preparing it.

After the paste has been applied, the spine is attached to the paper and the volume is wrapped in bandages and left to dry for a good two hours.

After the paste has dried, the volume is removed from the bandages and, as you can see, the spine has now been partially re-attached to the volume. The hinge is now holding it in place and it is ready for the second hinge to be inserted to fully re-attach the spine to the book.



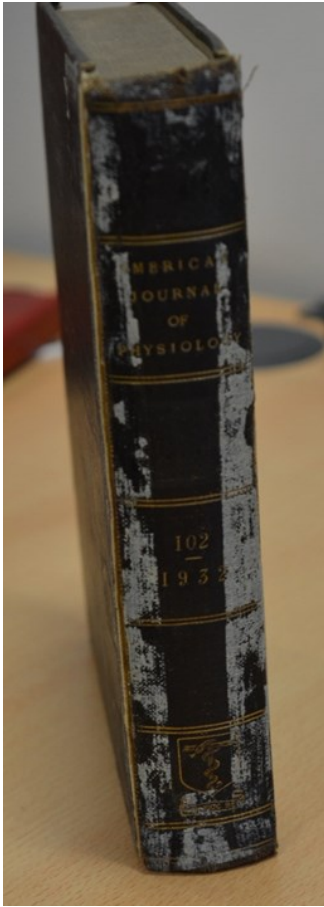


A new hinge is cut out, using the same Japanese handmade paper as before, and folded in half. It is then placed on two sheets of waste paper and pasted.

The reason we use the waste paper, as can be seen in this image, is so we can apply paste liberally to the Japanese paper. We can brush over the edges to ensure the entire length is covered, while the waste paper protects the work surface.



After the new hinge is applied to the spine and stuck in place, it is wrapped in bandages again to help hold everything in place. Once the paste has set, the bandages are removed and it is now possible to attach the remaining loose side of the spine to the new hinge.



As before, waste paper is slid under the flap of the hinge and paste is applied. Once this is done, it is folded into place and the spine attached. The book is then bandaged again and left to dry for several hours.

Once the bandages come off, if all has gone well, then the book once again has its spine attached. To check that the “Hollow” has been restored all you need to do is open the book gently and look inside.

As you can see in the final image below, there is a large open space between the curved spine of the binding and the outer leather covering. The *hollow spine* has been restored and the book can now be used safely once again without risk of accidental damage that could be caused if the spine was left exposed.





The ROYAL SOCIETY *of* MEDICINE

Some simple things you can do to help to keep books and journals in good condition.

Keep food and drink away from books and journals.

Although we allow eating and drinking in the Library we do request that you are mindful of the library stock and keep any foodstuff or liquid away from the books and journals. When looking at rare and valuable material we ask that you do not have any food or drink on the desk.

Avoid putting strain on the spine of an open book – please do not try to force a volume to lie flat and do not leave it lying open face down. Foam book supports and book pillows are available in the library. Please do not use the supports for any other purpose.

When removing a book from the shelf, push back the books on either side of the one to be removed to expose enough of its spine to allow you to get a firm grip on it. Avoid pulling at the top of the spine as the spine can break away.

Ideally, soft pencil rather than biro or ink pen should be used when working near library materials.

Re-box and tie books - if you are using a book which has been boxed please carefully re-box it after use and please do re-tie the tapes when you are finished. Staff will assist if required.

Use bookmarks to flag pages - Bookmarks rather than sticky notes should be used as these get left in books and sticky residue ends up on the pages if left. Please do use our acid free bookmarks.

Exhibition Curated by: Nicola Imrie - Collection Development Manager
& Ashley Phillips - Library Assistant - Collection Development