

Care and conservation of books

The wide range of books found in collections can include modern paperbacks, cloth-bound hardbacks, leather bindings or parchment-covered books.

Books come in all shapes and sizes and may be rare or ephemeral. Some are in everyday use, whilst others may seldom be looked at. They may have considerable personal or financial value to you as owner, collector or curator.

Books are made from a variety of materials, most of which are natural products. The paper, boards and thread of a book are commonly composed of cellulose, a plant material. The covers can be made from a wider variety of materials, including skin products such as leather or parchment, textiles or plastic. Some of these materials are of good, durable quality but others have inherent weaknesses and tend to degrade, especially if their storage or display conditions are poor or if they have received heavy use.

What can go wrong?

Damage is related to four main factors: what the book is made of, how and where it has been stored, the construction of the book, and the degree of use the book has been subject to.

Specialist book conservators know about the manufacture and construction of books of all periods and materials. As well as carrying out treatments on individual books, they can help you identify which items are at risk, and advise you on the best ways of protecting your collection and retaining its value for the future.

These are the kind of problems you can detect yourself:

- Poor-quality paper may become brittle and yellow. This is usually due to impurities in the cellulose, but it can be made worse by poor storage conditions and exposure to light.
- Large books such as family bibles can be poorly constructed; often the cover loosens or detaches due to the weight of the textblock.
- Leather bindings can become sticky and will attract dirt if oils and leather dressings have been over-applied.
- Leather can degrade and become dry and powdery. Books affected by this condition can be boxed or wrapped in acid-free paper to prevent marking of surrounding volumes.
- Dust collecting on the top edges of books may lead to discolouration and encourage mould growth.
- Paper and other organic materials (such as leather) react to changes in the moisture content of surrounding air. The edges of the pages may cockle if the surrounding environment is too damp and conversely, books can also become stiff and brittle if the environment is too dry. A fluctuating environment can cause stress to the structure of a book and cause damage, for example tears and splits at the joints where the book covers join the spine.
- Damp and mould provide a favourable environment for insects which eat cellulose: certain insects can bore right through books.
- Where pages become loose, they can become easily creased, torn and dog-eared.

What you can do

Good handling and storage are the best ways to avoid damage. Books are complicated mechanical objects and the way in which they are opened and closed, and manipulated during use influences how long they last.

Handling

- Always open a book carefully, without forcing, since the materials it is made from may have become weak over time. Some old books may not open much beyond 90°. Placing books face down on a flat surface will break the binding.
- The paper may be weak or damaged; so turn the pages carefully to avoid tearing. Be aware that dirt and oil from your skin can damage and stain paper. Gloves are sometimes recommended for handling bindings, particularly textile bindings or those with metal clasps, however, gloves can reduce your sensitivity to delicate papers so it is advisable to use clean, dry hands instead for turning pages.



CHICC at John Rylands Library.

Front image: John Rylands Conservator & Preservation Team Leader Tim Higson ensuring Latin manuscript is comfortably supported by the bespoke book cradle prior to going on loan to Reggio Emilia in Northern Italy.

Find a conservator by using the conservation register

The Register is free to use; it provides detailed information on conservation-restoration practices based in the UK and Ireland including contact details, referenced examples of previous work and the qualifications of members of staff. It is searchable by specialist skill and geographical location and each business has been required to meet rigorous criteria which include professional accreditation of the lead conservator of the business; the information is regularly updated..

www.conservationregister.com



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- Take care when removing and replacing books from shelves. Avoid pulling on the top of the spine to remove books from shelves as this area is particularly prone to damage.

Storage

- A cool, dry and stable environment is ideal. Temperatures of 16°C–19°C and a relative humidity of 45%–60% are recommended. If it is difficult to achieve this within the home, try to achieve a stable environment with a relative humidity of less than 60%; above this, mould and insects can flourish. Ideally keep books away from direct heat sources such as radiators and sources of moisture such as damp external walls. Avoid storage in attics, garages or basements where temperature and humidity fluctuate, where pests may be a problem and where leaks and floods are relatively common.
- Try to protect books from direct light, especially daylight which can be particularly damaging. Light damage is irreversible.
- Store books neatly, upright on bookshelves and do not allow them to lean sideways and become distorted. If possible, books should not come into contact with unsealed wood which can release organic acid vapours. Line shelves with archival board (acid-free) to avoid this problem.
- Make sure that there is good air circulation, for example avoid pushing books to the back of a shelf. This will reduce the risk of condensation and mould developing.
- Try to store books of a similar size next to each other so that the volumes are properly supported. Use book ends for support if necessary. Large books are best stored horizontally.
- Avoid the temptation to pack the shelves tightly as this will make the books vulnerable to damage when you are removing and replacing them from the shelves.

A professionally qualified conservator can advise on appropriate environmental conditions for your collection and provide information on archival-quality storage materials.

Packing books away

- If you need to pack books away, make sure that they are clean and dry, and avoid wrapping them in common household plastics such as bin liners, plastic bags or cling film. These emit harmful gases as they degrade.
- You can pack books in sturdy cardboard boxes, but be aware that poor-quality papers and card tend to have a high acid content which, if in close contact with the books, will be damaging, for example causing paper to darken and become brittle. Valuable books should be stored in archival boxes made from acid-free materials.
- Small and medium books can be packed standing upright or lying flat, but never pack books with the front edge (fore-edge) down as this can damage the structure of the book and loosen the binding. If you need to see what is in a box easily, write a list of the box contents and stick it to the outside of the box. Large books should be packed flat.
- Do not pack the boxes too full, or stack boxes so that they are liable to crush those beneath.
- Remember to check the contents of boxes periodically (at least annually) for signs of damage.
- Try to raise boxes off the floor, for example on pallets, as this will protect against water damage should leaks occur.

Cleaning

- To remove dust from the top edge of a book, hold the volume firmly shut and brush the edge gently from spine to fore-edge using a soft brush, e.g a natural-fibred Japanese flat brush, the size will vary but 25mm is a useful width.
- Leather 'dressings' are not generally recommended—these can easily cause a book to become sticky, will attract dirt and may stain. The best way to prevent leather from drying out is to control the environment in which it is kept.

Repairing books

If the binding of a book is broken or pages are falling out, keep them all together by tying the book with linen tape. Do not make repairs to tears with ordinary adhesive tapes or gummed paper as they will be impossible to remove without causing damage and will stain the paper and make it brittle. Unfortunately, well-meaning amateur repairs have the potential to do more harm than good. Similarly, re-binding can reduce the value of a book, both historically through loss of important bibliographic information, and financially.

If your book gets wet, stand it on clean, white, absorbent paper with the pages fanned out to dry. If a number of books get wet, contact a conservator immediately as freezing may be an option.

Consulting a conservator

There is much that individual owners and custodians can do to protect books and prevent damage from occurring, though when damage has already happened it is best to consult an accredited conservator. Conservators can help in a number of ways, including:

- Carrying out condition surveys of individual items or a collection, including prioritising and recommending treatment and preventive care.
- Treatment of tears, replacement of loose pages, re-sewing and re-binding damaged structures.
- Designing and making special mounts and cradles for fragile books which you want to display or consult regularly.
- Making tailored storage boxes for special items.

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