
UNIT 12 ELEMENTS OF BINDING AND PRESERVATION

Structure

- 12.0 Objectives
- 12.1 Introduction
- 12.2 Binding and Preservation Work
 - 12.2.1 Purpose and Objectives of Binding
 - 12.2.2 Library Binding: A Historical Sketch
 - 12.2.3 Binding Policy for Libraries
 - 12.2.4 Home Bindery vs Commercial Bindery
 - 12.2.5 Choice of Bindery: Factors to be Considered
- 12.3 Binding Processes
 - 12.3.1 Collation
 - 12.3.2 Sewing
 - 12.3.3 Attaching Covers
 - 12.3.4 Endpapers
 - 12.3.5 Gilding
 - 12.3.6 Headbands
 - 12.3.7 Hollow backs
 - 12.3.8 Finishing
- 12.4 Kinds of Library Bindings
 - 12.4.1 Publishers Casings and Paperbacks
 - 12.4.2 Library Reinforced Binding
 - 12.4.3 Decoration Materials
- 12.5 Binding Materials
 - 12.5.1 Covering Materials
 - 12.5.2 Sewing Materials
 - 12.5.3 Decoration Materials
- 12.6 Binding: Organisation and Management
 - 12.6.1 Activities of the Binding Division
 - 12.6.2 Specimen of a Binding Register
- 12.7 Care and Preservation of Library Materials
- 12.8 Summary
- 12.9 Answers to Self Check Exercises
- 12.10 Key Words
- 12.11 References and Further Reading

12.0 OBJECTIVES

The wear and tear of books and other documents are normal features of most modern libraries. Binding and repair of damaged books and preserving them for longer use are essential functions of libraries. In this unit, we introduce you to the rudiments of binding, and procedures and routines involved in organising binding and other related work in libraries.

After reading this Unit, you will be able to:

- describe the objectives of conservation of library materials;
- outline an appropriate binding policy for a library;
- procedures and routines of binding work in a library; and
- arrange binding work with a basic understanding of the processes and techniques of binding.

12.1 INTRODUCTION

Units 10 and 11 of this block acquainted you with various aspects of work relating to circulation and maintenance in libraries. In this unit, we introduce you to the essentials of conservation of library materials, especially binding work.

This Unit spells out the objectives, policies, procedures and routines of binding. Knowledge of binding work, rudiments of binding and binding materials and a few technical details of binding are essential for organising and managing the binding section of a library. Some of the problems and issues related to library book-binding are presented in this unit with the means and methods of handling them.



Binding is essentially a craft and binding processes are technique-oriented. Hence, a visit to a good bindery and careful observation of the materials and process in binding would help you to get adequate knowledge of binding work. This practical study would serve as a good background for organising and managing binding work in a library.

12.2 BINDING AND PRESERVATION WORK

Preservation and binding are those aspects of librarianship that have frequently been neglected. It is generally acknowledged that in the present day pre-occupation with 'use of library materials' preservation aspect of documents has received too little attention. In order to build up a good collection, you should have the acknowledge as well as an appreciation of the collector's feelings about books. Some are of the opinion that the profession as a whole must demonstrate a better appreciation of books as objects of art in addition to their value as sources of knowledge.

12.2.1 Purpose and Objectives of Binding

Unlike private collection, books in libraries are to be used by successive groups-be it a public library or an academic library-and hence need greater care in handling and preservation. Library collection is no more limited to books printed on paper. It now includes non-book materials - films, magnetic tapes, discs, etc. However since the books still constitute the bulk of library collection, binding routines needs our special attention..

A tabular record for books withdrawn/weeded as per illustration may be maintained.

In all such cases approval of the relevant parent body also must be taken before effective withdrawal/weeding.

Books are consumable commodities. They are to be preserved for posterity. The paper which constitute that book is delicate and subject to wear and tear. There must be some covering material so that it can be saved from its various enemies such as insects, dampness, dirt, heat, cold, etc.

The main objective of binding is to build strength into a book, subjected to the rigorous and abuses of library usage. Binding ensures the preservation of written, printed or near print material.

The objectives of library binding are:

- 1) to enhance the **life span** of library materials by insulating against wear and tear.
- 2) to improve the **durable quality** of library materials i.e.; maintaining them in good shape while being used, and
- 3) to improve their aesthetic qualities by creating a new book and thereby attracting readers to them.

12.2.2 Library Binding: A Historical Sketch

Historically the purpose of binding has been the preservation of the written word. Prior to the modern book, the earliest library materials of the Alexandria-Assyrian clay tablets with their **cuneiform inscriptions**, were enveloped in outer clay shells. Early Egyptian Papyrus rolls were preserved in rectangular grooves cut out of wood. The rolled up scrolls of vellum, **papyrus** of paper were encased in cylinders or similar shape. With the advent of manuscripts in book form, came the development of fine bindings, splendid work in leathers and metals, ornamented with jewels, enamels, and covered ivory. It became the art work of great craftsmen. The development of printing brought in publishers' binding which is often of poor quality and workmanship. Thus binding was transformed from an art to a mere craft.

Self Check Exercise

- 1) State the three objectives of binding of documents in a library.

Note: i) Write your answer in the space given below.

ii) Check your answer with the answers given at the end of this Unit.



12.2.3 Binding Policy for Libraries

Most libraries acquire various kinds of materials which need differential handling and care. The question is: what is an adequate programme of conservation and binding?

Binding does not present a serious problem when library materials are not used heavily, where periodicals are not kept permanently and where special materials are not collected. A library need not bind every item it acquires: however, every item should be maintained in such physical condition that it can be used by patrons without injury to the material. Neglect of binding activity in libraries would result in issues of periodicals getting lost or mutilated, books being used beyond repair, rare volumes being needlessly damaged, leather bindings being allowed to deteriorate, and special materials being destroyed.

The main guiding principles of binding documents are the type of material in terms of their physical quality and content value and extent and nature of use. All materials do not necessarily need the same type of binding in all libraries. Estimates of their useful life and of the extent of use that will be made of them, will help determine the best policy. Overbinding can be as wasteful as under-binding. Hence a judicious and cautious book-binding policy is to be evolved.

Materials of heaviest use should be bound according to prescribed standards and specification; those that are of less use but which for historical or research purpose will be valuable over a period of time, will also need this type of binding. Usually large or heavy volumes and those which receive extra-ordinary use should have reinforced bindings. Indexes, bibliographies, dictionaries, encyclopaedias, book catalogues and similar reference works need this type of binding.

i) Periodicals

Now let us discuss the type of documents that need binding in libraries. Among these, periodicals need to be bound for their archival value.

Periodicals constitute a very significant segment of library collection, especially research libraries and university libraries. The binding of these materials in a research library represents an important element of conservation. They should be carefully checked at intervals all through the year for completeness and due care should be taken to obtain for every periodical its title page, contents and index from the publishers when available. The checked sets may then be bound according to the use anticipated. The advent of their wear and tear is comparatively less. Thus libraries can save space and money by going in for light storage bindings, that is, a cloth binding with boards of strength adequate to save unnecessary expense. It is not advisable to bind permanent materials which are fragile, rare items, archives and newspapers. For their protection, they should be laminated. File envelopes and specially sized flat storage boxes are more suitable for archival material: Special collections, rarities and other beautiful works may be bound with special 'fine bindings'.

ii) Newspapers

Of all the library materials, the newspaper is probably the most comprehensive, the easiest, to collect and the most vanishing type of a source. The newspapers reflect the conditions, events and forces of its time and the information contained in a newspaper is valuable.

Since newspapers are printed on newsprint (a type of paper) they disintegrate very fast. Therefore, they have to be conserved in an appropriate manner. Temporary bindings may result in some savings but such method are usually not satisfactory for long range



conservation. Microfilming offers the best available solution to the problem of conservation of newspapers. Newspapers can be bound in canvas covers or in an economy-binding consisting of stout boards covered with a paper like material with cloth of leather spines.

Documents not considered as permanent to the collection need not be bound even if their initial use is heavy enough to warrant it. Some libraries prefer to acquire multiple copies to satisfy heavy initial demand and bind only one copy for the occasional request later. To this category belong current fiction and textbooks which are frequently revised.

iii) Fiction

Fiction needs most careful consideration in view of heavy demand and use and its ephemeral nature. Still its heavy use may prompt librarians to decide on binding, but at the same time has to retain a large stock to avoid complaints from readers that there are no fiction books available on the shelves. Binding a worn-out fiction is no less expensive, if not more expensive than purchasing another copy. Fiction has also been given the same treatment as other books in the past, resulting in over-binding. As a reaction against this policy many librarians today advocate cessation of binding for fiction which they claim can be purchased as cheaply as the cost of binding, with an improved psychological effect on readers. However some librarian believe that in order to keep continuity of actual volume of book stock, binding is still necessary.

Materials of temporary value and limited use can be bound according to the specifications or the library and binder together can develop a type of suitable binding. However, such material does not need more durable binding.

iv) Pamphlets

Pamphlets are paper covered materials of fewer than fifty pages. Most libraries collect pamphlets and if these materials are to be used effectively and efficiently, considerable attention must-be given to their proper care. They may be treated in several ways. One of the earlier methods was to bind a suitable number of these pamphlets into a book form. This practice is not at all satisfactory from the point of arrangement, although it has the primary advantage of ease of handling and economy. Another practice is to place pamphlets in vertical files, boxes or envelops or wire-staple them into manila covers. Another alternative is to use modern suspension filing system. This method has the great advantage of permitting very close subdivision, of giving visual indexing.

The decision as to which method a library should follow, depends upon the emphasis given to preservation of pamphlet materials, upon the nature of the pamphlets and also the size of the pamphlet collection.

Handling of special material needs careful consideration. The specifications have to be clearly spelt out. Technical reports have to be stored in some form of pamphlet or storage boxes. As standards and specifications and some other materials, are subjected to frequent revision they require some form of loose binding.

Self Check Exercise

2) List the categories of documents that re usually bound in libraries and those that need not be bound.

Note: i) Write your answer in the space given below.

ii) Check your answer with the answers given at the end of this Unit.

.....
.....
.....
.....
.....
.....



12.2.4 Home Bindery vs Commercial Bindery

The decision whether to send material to a commercial binder or to have a binder in the library is to be decided first. As binderies become more and more mechanised, the investment in machinery alone makes one to hesitate to take the latter decision. Increasing labour costs, lack of trained help and excessive labour turnover tend to raise operational costs. The amount of Librarian's time and energy that must be expended in supervision and maintenance is also another factor to be considered.

Having library binderies has many advantages such as the closer control of the work, a possible speeding up of the work, and the ability to decide the style and quality of the product. Having books and especially periodicals always on the premises is both desirable and convenient. However, relative economies, benefits and convenience have to be worked out clearly. A home bindery is perhaps of great value in university libraries and some research libraries where the constant demand for the materials make it advisable to keep them on the premises. According to one authority unless there are more than 20,000 items for binding annually, no substantial economy can be achieved by a public library. There are claims that a library bindery can economically used also for jobs such as making book card pockets, illustration-mounting, magazine cover making. In the final analysis however, local facilities, circumstances and situations naturally affect the decision.

The question of whether or not a library should operate its own bindery is an important one but one which cannot be settled categorically for all libraries.

12.2.5 Choice of Bindery: Factors to be Considered

Outside binders are normally selected through competitive bidding or through free selection. Whatever the case, the librarians should provide specific data to the binder regarding the size and condition of the volumes to be bound and also the expected workmanship and quality of materials. While choosing a binder the library should take into consideration the binder's reputation for good workmanship, accessibility, the price schedule and so on.

The bindery should assume financial responsibilities for the material in its care. Other responsibilities of the bindery, are to keep enough cloth and buckrams that the library has chosen to supply sample of cover materials for selection, send notifications of pick up schedules and supply boxes for convenient packing. Billing procedure should be acceptable to the library, confirming to the requirements of its accounting department.

Self Check Exercise

3) What is the criteria for choosing an outside binder.

Note: i) Write your answer in the space given below.

ii) Check your answer with the answers given at the end of this Unit.

.....

.....

.....

.....

.....

.....

12.3 BINDING PROCESSES

The, binding of books is both a craft and an art although the artistic aspect has receded to the background in modern binding, except for some special categories of books. The production of binding is in two parts. All the processes of binding books before lettering and decoration, are known as 'Forwarding'. This is a craft, requiring a high degree of technical skill and also a good knowledge of materials and processes used in book production. 'Finishing' i.e. decoration of the cover in various styles, is an art in which some, figured binders of the past have attained substantial heights of achievement, comparable to artistic creativity. Finishing which embellishes a book with artistry, is regarded more difficult but forwarding is the most



important. Though the lettering and decoration contribute nothing to the life of the binding, they however identify the book and make it pleasing to look and handle. Apart from the utility value of a good binding, forwarding gives pleasure in the compactness of the book the way in which it opens and the precision of execution, while finishing delights the eye by the brilliance of gold, the harmony of the colours and the form of decoration. Forwarding and Finishing include the following eight processes:

- 1) Collation
- 2) Sewing
- 3) Attaching covers
- 4) Endpapers
- 5) Gilding
- 6) Headbands
- 7) Hollow Backs
- 8) Finishing

We shall discuss these eight processes in detail.

12.3.1 Collation

Collation is the first task in the binding processes. All the parts and the pages of a volume have to be correctly sequenced. In the case of periodicals, collation is very important as it involves correct sequencing of the separate issues and insertion of usual title and content and index pages in the proper places. While binding worn out, torn, soiled and damaged books, special care has to be taken while collating: It is to be ensured that the paging sequence is in order and that no page is either defective or missing. Collation is a difficult job in the case of manuscripts and other printed books as they are generally not paged.

If a book is to be rebound it must be 'pulled'. Pulling is the process of separating cover from text and removing old threads, tapes and glue which is often a tedious process. If folds of old books are damaged, a 'guard' would be necessary. 'Guard' is a narrow strip of paper used to repair a damaged for or to attach a plate or a single leaf. Special techniques are employed in guarding and mounting maps and folded sheets.

12.3.2 Sewing

Before sewing, the pages of a books must be pressed firmly, to expel air and also to crease the folds of the sheets. Books are to be trimmed before sewing. There are various styles of sewing. Stabbing is the most primitive of these. Oversewing (also called 'overcasting or whipstitching') was developed in the eighteenth century to hold heavy plate books together firmly. It is a method for making a series of sections, then sewing all along them. Oversewing machines are the mainstays of modern library binders.

12.3.3 Attaching Covers

Regardless of the sewing method used, the sewn book must be "knocked up" to be square at head and spine. By hammering along the back edges, the expansion resulting from the sewing can be reduced. The spine is glued with a thin hot glue diluted with some insecticide such as DDT. The book again is "knocked up" to round the spine and the spine, line. Preparation of cover boards for the book case requires exact measurements. To prevent the deposition of colouring matter of the boards from showing through the end papers, the boards are to be lined up and marked for sewing and for fixing tapes. The board is then attached to the book and pressed and the glue is let to dry.

12.3.4 Endpapers

Sheets before and after the text of a book are called endpapers and they may or may not be decorated. Marbling is the classic type of decoration used and commercial binders often use maps, engravings or pertinent photographs for endpaper illustration. The endpapers perform a protective function and thus require leaves for good quality paper.



12.3.5 Gilding

Gilding or colouring edges may be done either at the time of trimming the edges or after cutting the boards. The purpose of gilding or colouring is primarily to protect the books. Gilding or colouring of the edges gives a smooth solid surface that will prevent dust accumulation. Secondly, the gilding or colouring enhances the 'looks' of the book.

12.3.6 Headbands

Headbands function as decorative pieces. The back is lined up using different methods of lining up. However, the different methods of lining up have one thing in common, that is, smoothening of the surface of the spine by gluing a soft kraft paper over it.

12.3.7 Hollow Backs

Hollowbacks help save the spine from cracking. This kind of back is achieved by marking a kind of 'tube' with heavy wrapping paper. A paper three times the width of the spine is taken and one thickness is glued with the spine and two thicknesses apart from the spine.

The binding is covered either wholly or partially by leather, cloth or paper. All the above processes described so far are known as 'forwarding'.

12.3.8 Finishing

Finishing is the final process of making the binding more artistic and attractive. This includes:

- preparation of the leather covering
- imaginative design for the cover
- tooling i.e. fixing the title, call number of the book, etc. On the spine or at any other place on the cover decoration i.e. giving the final touches to get a finish

Generally leather is used to provide fine covering for the bound book, but cloth or canvas is also used for this purpose. These covering materials have to be prepared for tooling. Tooling is the process of fixing the letters of titles, call numbers, etc. On the leather or cloth binding with special lettering tools. This is done to make the lettering on the spine stand out in relief not only to make the binding more attractive but also to read them easily when they are kept on library shelves. When tooling is done through gold leaf, it is called 'gold tooling'. When neither gold nor any colouring matter is used, it is called 'blind tooling'. Lettering may also be done by writing individual letters using an electric stylus.

Finally the outer leather or cloth binding is given a polish and the lettering is given an embellishment needed to get an artistic finish.

Self Check Exercises

- 4) Give a list of the various processes of binding.
- 5) Explain in five lines the process of collation.

Note: i) Write your answers in the space given below.

ii) Check your answers with the answers given at the end of this Unit.

.....

.....

.....

.....

.....

.....

.....



12.4 KINDS OF LIBRARY BINDINGS

Having got a brief introduction to the processes of binding, let us discuss the kinds of binding required for the different types of documents in a library. These Include:

- 1) Publishers' casings and paperbacks
- 2) Library reinforced binding
- 3) Library binding: Full leather binding; Half leather binding, pull cloth binding; Half cloth binding.

Perfect binding and plastic covering for books. While dealing with reinforced binding and library binding, extracts from standards of Binding by the American Library Association and Ranganathan's specifications for books that are to be either rebound and to be bound for the first time, are given.

12.4.1 Publishers' Casings and Paperbacks

It is a light straw-board cover, over which an attractive coloured cloth is glued. This casing is attached to the book itself by narrow tapes projecting beyond the spines to which they are glued. This is usually reinforced by mull fabric and protected by the end papers pasted on the inside of the cover.

As a rule majority of fiction, popular editions of books, student editions and others are published in this form of binding. These kinds of books are meant for public and hence their price has to be within their reach. It is possible only if the paper and binding is of inferior type. The paper used in such books is a bit stronger than that of newsprint and the binding is of hard paper only.

12.4.2 Library Reinforced Binding

Reinforced binding means strengthening the book by adding some material. It could be strengthening of the hinge with cloth or the reinforcing a page with some tissue.

The Council of the American Library Association, the Library Binding Institute (L the Joint Committee of A:L.A, have prescribed the standards for Re-inforced (pre-library bound) binding of new books as follows:

- 1) All 'reinforced' new books shall be completely renewed in accordance with the minimum specifications for class 'A' Library Binding. (Most books having proper inner margins and suitable paper shall be sewed by machine, all sections shall be pasted. No oversewing shall extend more than 3/16 inch in from the backedge of the volume, and no nearer to the head and tail than 1/2 inch).
 - i) With the exception of the cover, all other parts, construction, processes and materials. shall be in conformity with the minimum specifications,
 - ii) Three types of cover shall be permissible:

Type I Class 'A' Cover. Cover similar in appearance to the publishers' original cover but made of heavy weight library buckram (starch filled of pyroxlin-filled) or pyroxlin coated fabric as required by the minimum specification, and with the publisher's original design imprinted thereon.



Type II Publisher's light-weight buckram cover. Cover similar to that of Type I, but made of a light-weight buckram, with the publisher's original design imprinted thereon.

Type III Publisher's original cover. This refers to the cover which would be on the book if bought in its original form, non-reinforced, through the usual channels. A reinforced book of this type would have the publisher's original cover taken off by the binder, who would then re-sew and otherwise reinforce the book and replace the original cover on the volume.

Reinforced new books which conform to A.L.A. standards, shall be designated as follows:

- A) Resewed and reinforced in class 'A' cover or "cover 'A' pre-bound" (Corresponding to Type I above).
- B) "Resewed and reinforced in publisher's buckram cover" (Corresponding to "Type II" above).
- C) "Resewed and re-inforced in publisher's original cover" (Corresponding to "Type III" above).

Only books reinforced in accordance with "Type I" shall be designated "Class .A" or referred to as conforming to the Minimum Specifications:

For books which are to be either rebound or which are bound for the first time, Ranganathan's specifications are given below in brief:

Collation: All books received by the contractor are to be examined and collated and any found to be imperfect or seriously damaged are to be returned unbound to the Librarian.

- A) A periodical shall not be held to have been collated properly nor to be perfect, unless all the parts of a volume are bound in correct sequence or pagination and the usual title.
- B) Wrappers and advertisements in, periodicals and books are to be bound in, if the contractor is instructed to do so; otherwise, they are not to be bound in.

Sewing: Books printed on paper of good quality are to be sewn one sheet on (except where thinness of paper makes it necessary to sew two sheets on) with unbleached thread of suitable thickness over unbleached linen tapes. Books printed in soft, spongy or brittle paper are to be lined at inner and outer folds with strips of thin but tough paper before they are sewn. All sections broken at the back are to be lined with tough paper on linen strips, and where necessary neatly overcast on modern methods of cross stitching before being sewn to the tapes. The first and last sections of all books are to be enclosed at back in linen strips. All separate leaves, plates, maps, plants, etc. are to be mounted on guards of linen, or tough thin paper and to be sewn in. Pasting on is not to be permitted. Two of the tapes are to be placed within one inch of the head and tail of each book. Straight-line machine stitching will not be accepted.

End papers: Endpapers are to be of good tough opaque paper of approved mild colour, with at least one plain white leaf between each of them and the printed matter. The end papers are to be made with strong liner of cloth and to be sewn on as a section.

Cutting edges: Unless otherwise instructed, the contractor is to cut edges of books accurately and to take care to leave margins as wide as possible.

Forwarding: Unless otherwise directed, all books should have French joints and tight or close flexible backs with the covering material attached directly to the back-tapes firmly inserted between split boards.

LEATHER IS NOT TO BE UNDULY PAIRED DOWN OR UNDULY STRETCHED IN COVERING. THE COVERING MATERIAL OF BACK IS TO EXTEND OVER BOARDS TO AT LEAST ONE-SIXTH OF THE WIDTH OF THE BOOK. ALL BOOKS SHOULD OPEN UNFREELY AND LIE FLAT.

Lettering: Lettering is to be impressed in best gold directly on to the material which covers the book.

Sizes: The size of a book is to be determined by the measurement of the board, the square of which must not exceed one eighth of an inch in books up to the crown octavo, and proportionately for larger sizes.



12.4.3 Library Binding

Binding should be appropriate to the type of material and to the expected use. Early binding for libraries stressed strength, appearance being only a secondary consideration. Books were generally bound in half leather with cloth sides. Magazines and newspapers were generally bound with leather backs and corner and with cloth sides lettering was stamped in gold. Scarcity of leather during World War I led to the use of cloth for entire cover.

In 1935 the American Library Association issued its 'minimum specification for Class A Library Binding' followed in 1939 by its 'Standards for reinforced (Pre-Library Bound) New Books' issued with the Library Binding Institute. These standards have been combined and have been revised as needed, to reflect new materials and new processes by the Library Binding Institute.

These standards which are useful are given below:

- i) All books shall be carefully collated before being taken apart to detect any missing or damaged leaves or any peculiarities of paper or constructions that might make rebinding inadvisable.
- ii) All tears through print shall be mended with Japanese tissue or onion skin bond, and all tears in margins with bond paper of suitable weight.
- iii) Books unsuited for over sewing shall be prepared and reinforced through their folded sections.
- iv) Books that are to be oversewed shall be divided into uniform sections, each section not to exceed .050 inch in thickness, except flexible pulpy paper which may be thicker sections not to exceed .606 inch each.
- v) All end papers shall consist of three functional parts: apaste-down or outward end-leaf which becomes the cover lining; at least two free-leaves, and reinforcing fabric.
- vi) The construction of end papers shall be such that the sewing will go through the reinforcing fabric the same as through the sections of the book.
- vii) Most books having proper inner margins and suitable paper shall be sewed with thread by Oversewing method, either by machine or by hand. If sewed by machines, all sections shall be pasted. No oversewing shall exceed 3/16 inch from the back of the edge of the volume and no nearer to the head and tail than 1/2 inch.
- viii) All books shall be trimmed as slightly as possible.
- ix) Edges shall be sprinkled, stained or left plain as instructed.
- x) Backs of books shall be glued with approved flexible glue, well rounded and backed, and lined with approved canton flannel extending to within 1/4 inch of head and tail of books and well onto each end paper (approximately 11/2 inches.)
- xi) Covers shall be made of heavy weighty starch-filled or pyroxylin-filled buckram or drill base pyroxylin-coated material of a quality at least equal to the standards set forth in part v of these specifications.
- xii) Covers shall be made cover hard-rolled binders board, with uniform squares, in a neat manner. The thickness of the board shall be suited to the size and weight of the book.
- xiii) Books shall be cased in with glycol paste and pressed between metal-edged boards until thoroughly dry.
- xiv) Lettering shall be done after proper sizing in clear tape of a size appropriate to the book in style and position as instructed, using X.X.23 carat gold deeply impressed to insure long adhesion to the cover.
- xv) All books shall be sprayed or treated with a protective material evenly and lightly applied over their lettered backs.

Full leather binding: Full leather binding means that whole of the card board is covered by leather. Books which are very expensive and are rare may need this kind of binding. Usually reference books such as encyclopaedias, dictionaries, atlases, etc., are given full-leather binding.



Half-leather binding: This is a type of binding, wherein half the board is covered with leather and the rest by cloth or buckram, The back and the corners are covered by leather as they are the portions which need protection. Backruns of periodicals and magazines, may need this kind of binding.

Full cloth binding: The cover boards of books are covered completely with cloth in this type of binding. Generally this kind of binding is given to standard books and textbooks which are very heavily used.

Half cloth binding: The spine and corners of the board are covered by cloth and the rest of the cover boards is covered by cheaper materials such as paper and other decorative materials. Books which are slightly cheaper are given this kind of binding.

Perfect binding: The need to find a less expensive process for binding paperbacks led to the development of the 'perfect binding' - Considered as the most imperfect. This substitutes an adhesive for sewing. Development of new materials has made these adhesive bindings almost as durable as oversewn bindings. However, they are not suitable for large or heavy volumes or coated papers. They are, excellent for cheap and porous papers, for publications with narrow inner margins and where it is desired for a books to open flat without undue strain on the spine.

Binders are able to make up special variations on any of these bindings suitable to the individual need of their customers.

Because not all library material needs quality binding the ALA has also approved minimum specification for little used materials. These are referred to as LUMSPECS. For these, Class A specifications are followed in relation to materials, where applicable, but covers consist of hard rolled binder's boards with buckram spines.

Plastic covering for books: Librarian are always interested in attempts at preserving the freshness of newly purchased books for as long as possible, particularly those with artistic and decorative dust jackets. Colourful dust jackets attract the patrons to the books. Various methods have been tried to prolong the, life of these fragile papers, such as backing them, with differ paper or attaching them to the books cover. However, the most effective method is to attach transparent plastic (PVC foil) covers to the book. These covers are reasonably priced and can be easily fitted. The book is also protected from the elements, thereby achieving the objectives of covervation. They are sometime available in prepared 'sleeves' and the foil is available in rolls of various gauges of thickness.

Self Check Exercises

- 6) List the different kinds of library binding.
- 7) State the main feature of library binding specifications.

Note: i) Write your answers in the space given below.
 ii) Check your answers with the answers given at the end of this Unit.

.....



12.5 BINDING MATERIALS

The quality of binding depends on the type of materials. As a working librarian or a prospective librarian you would need to be conversant with the types and quality of binding materials. Binding materials can be categorised into the following.

Covering materials: The covering material include the boards and the materials used in covering these boards. The material are leather, cloth and paper.

Sewing material : Sewing materials are thread, thread gauze and tapes.

Adhesives: Adhesives like paste, glue and gum are necessary binding material.

Decoration material: These include the dust cover and lettering material. Now we shall discuss these materials in detail.

12.5.1 Covering Materials

Leather: Leather was the primary covering material for books until the third decade of the last century. It is only later that the commercial publishers began to use cloth as a covering material. Goatskin, sheepskin and calfskin have also been used in the past. Calfskin was popular in the sixteenth century and sheepskin in the seventeenth and eighteenth century. Morocco was widely used in the eighteenth and the nineteenth century and is still in use today.

Because of its pliability, strength and permanence leather is considered to be an ideal covering material for forwarding, finishing, tooling and lettering purposes.

Kinds of leather: The principal leathers used in fine bindings are:

Morocco: Levant morocco or real morocco is made from goat skin. Its characteristic features are its long fibre and prominent grains on the surface. This material should only be used for very valuable books which require a handsome and dignified binding. It is very durable and satisfactory provided is of good quality. There are varieties of morocco like Persian, Niger and Levant Morocco, of which Levant Morocco is the best.

Roan: This is a kind of inferior skin with a different grain and surface from Persian morocco and is a cheap leather often used for certain classes of books like, less popular works of travel, science, theology, fiction, etc. This is now largely superseded by cloth binding.

Pigskin: It is the strongest leather of all, and also the most durable for much used heavy books. All reference works as such as dictionaries, atlases, directories and other volumes which are constantly used are to be bound in this because it is hardwiring and also attractive in appearance. It is most useful for binding large volumes like newspapers. The main defects are its thickness and inflexibility.

Sheep skin: Sheep skin is a good quality leather and is attractive, brown in colour, very soft and durable. Proper tanning is essential to retain its original quality. It is used for rebinding and covering old books.

Calf leather: Though nondurable, calf leather is smooth, delicate and beautiful. Since strength or durability is more important than appearance in book binding it is considered quite inadequate for binding purposes.

Imitation leather: Increasing cost and unavailability of real leather and also the available technology has given way to imitation leather and leather cloth. These are cheaper stronger than real ones and as such have substituted for leather. It is available in a variety of qualities, shades and colours. It is available in a variety of qualities, shades and colours. It is stain resistant, has good finish and has grained surface but is sticky.

Cloth: It is claimed that good leather and good binder's cloth have little difference in durability and cost. Good quality binder's cloth is amazingly durable and makes excellent covers for all types of library materials: The technology now available has made these cloth water proof and oil resistant, with several varieties in graininess and colour combinations.



The ALA standards for Class A library binding are:

The weight of the stripped fabric shall not be less than 7.9 ounces per square yard.

The total thread count including wrap and filling, shall not be less than 110 threads per inch. The breathing strength (by strip method) shall not be less than 120 pounds per inch for the filling and not less than 200 pounds per inch for the sum of wrap and filling. -

Cloth substitutes: A material made up of strong fibre like unlaundered paper is substituted for binder's cloth. This substitute looks strong enough but is in fact weaker than cloth.

Paper: Cover boards are covered with some colourful or fancy thicker paper, thus giving a pleasing look and as well as protecting the cardboard. Many children's books and other popular books are bound in this manner. Wooden boards were used before paper boards were available but now a variety of paper boards is available. They are straw board, mill board, grey board, split boards.

Straw boards: Straw boards are a cheaper quality of board used for smaller and cheaper books. It is made up of straw and is found in abundance in Holland.

Mill Board: Mill board is manufactured from old hump ropes and other rags etc. Fine quality mill board are highly calendered. Calendering adds strength to boards and thus they are made tough and hard wearing. This is a good quality popular board used for standard books.

Grey board: This is a medium quality board as it is compact and hardwearing..

Split boards: Split boards are generally used for reinforced library binding. Thick black mill board is glued to thick straw board to get these split boards.

12.5.2 Sewing Materials

Thread: Sewing is the central operation in binding. The life of binding depends very much on the kind of sewing and the material used for sewing. Thickness of the thread must be appropriate to the thickness of the book. Too thick thread for a thin volume or vice-versa will result in damage to the book or to binding. Thread used should be of superior quality otherwise, binding may become undone causing wastage. Irrespective of the sewing method, sewing depends on the quality of thread.

The varieties of threads include cotton, linen, silk, nylon and terylene. These varieties differ in quality. Linen thread is much stronger and cheaper than cotton. Silk thread is much stronger and cheaper than cotton. Silk thread though used in the past it found to be unsatisfactory as it is difficult to handle. Modern synthetic fibres are much stronger and uniform. These are free from any tendency to rot in dampness and retain strength upon wetting. Unlike cotton these fibres maintain a perfectly smooth knot-free surface. In view of these qualities they are considered to be superior to traditional thread.

Thread gauze: A closely woven cotton mesh is glued to the spine of the book and both of its ends are inverted into the inner side of the covering board. This is thread gauze adds strength to binding.

Tapes and cords: Tapes and cords for library binding are made from different fibres. Strips of vellum are considered superior to tapes made of other fibres as they are durable. However synthetic types -nylon and terylene are considered superior to vellum because of their longer fibres. Tapes are used for connecting one section with the other sections. For larger books, cords made up of pigskin, vellum catgut are used for ensuring strong and durable bindings.

Adhesives: Adhesive, though necessary for binding also damage the binding. The damage drying is prone to, cracking. The features expected of a good adhesive, after drying is prone to cracking. The features expected of a good adhesive are its ability to wet the surface of the - materials, fluid form, quick setting and the bond strength.

There are varieties of adhesive available in the market now. They include starch past, industrial pastes, glues and gelatines and other kinds of glues.



12.5.3 Decoration Materials

Decoration is one of the process in 'finishing' which has already been explained in 12.3.8 of this Unit. Generally leather, cloth and canvas have been used for the purpose of fine covering for the binding. Generally gold tooling or white lettering is used for decorative purposes.

12.6 BINDING: ORGANISATION AND MANAGEMENT

If we consider the practice in various libraries, we can conclude that there is haphazard organisation of binding in most of the libraries. Binding has not generally received the attention that has been given to acquisitions, cataloguing, circulation and reference. In some libraries binding is combined with acquisitions; in others binding may be the responsibility of the periodical department, the maintenance section, the circulation department or the cataloguing department.

The scope of book conservation covers a series of tasks from the time of receipt (or even before) or a library materials to the time of discard. The tasks include - selection of material keeping in view its usability and useful life; examining conditions of all materials acquired; providing proper storage and housing in accordance with its conservation needs as well as its use; assuming responsibility for its condition at all times; ensuring its proper handing by staff and patrons; inspection and supervision of collection in order to identify the materials needing conservation; deciding on the proper treatment of all material needing attention; supervising the treatment and, deciding on storing and discarding.

It can be readily be seen from the above outline that binding is the concern of the library and not of any one department. It is for this reason, that binding is not easily integrated into the standard organisational pattern and so has not received the systematic approach given to other aspects of library services. Recognition of binding as a part of a total programme of conservation would result in giving appropriate status for the binding work/division.

The responsibility of a Binding Division/Section/ Department in a library is towards the newly accessioned and catalogued books received in an unbound state or with unsuitable binding. The Division must prepare for rebinding the previously bound volumes in the collection which have become worn out or damaged.

12.6.1 Activities of a Binding Division

- i) Identification and preparation of materials for binding
- ii) Recording of all such materials requiring binding
- iii) Specification of the style of binding, lettering and special instruction to the binder in accordance with the library binding policy.
- iv) Reviewing materials, especially periodicals and other special materials prepared for binding
- v) Maintaining current records of material in the process of binding and permanent records of materials bound
- vi) Compiling statistics of binding in terms of the style of binding and of the divisions/ sections of the library from which the materials was received.

12.6.2 Specimen of a Binding Register

Libraries keep a regular binding register or cards which carry all particulars of books sent for binding. This is required not only for maintaining a record of books that are bound but also for the accounts department to pay for the binding done. The register systems also satisfy the auditors. The columns in the table indicate the types of information that go into this register.



Name of the Library and Place

.....

SI. No.	Date of Despatch	Call No.	Author	Title of	Kind of Binding	Date of Receipt	Cost of Voucher Binding Rs./ps.	Payment No. & Date
---------	------------------	----------	--------	----------	-----------------	-----------------	---------------------------------	--------------------

.....

In the case of periodicals, recording assumes a greater role and format of recording also tries. It is necessary to maintain record, preferably on cards, arranged title wise.

It is essential that libraries prepare manuals of procedures so as to minimise errors and to facilitate the training of new employees. In addition to procedures, such manuals should provide information regarding bases of decisions for binding or not binding.

Recognition of the overall nature of the problems of binding would result in a systematic programme of book conservation.

Self Check Exercises

- 6) Give a list of the different types of binding materials for documents.
- 7) List the activities of the binding section of library.

- Note:** i) Write your answers in the space given below.
 ii) Check your answers with the answers given at the end of this Unit.

.....

12.7 CARE AND PRESERVATION OF LIBRARY MATERIALS

As should not be shelved too tightly nor too loosely. The former damages the binding en other books are forceful inserted and the latter causes larger books to sag and to strain sewing. The public will also not respect books or keep them carefully if the staff are seen throwing books carelessly into heaps, or casually dropping them on the floor. A frequently overlooked point is the need for caution in opening new or newly bound books. If these books are too abruptly opened the glue on the spine or even the stitches will be strained and permanent weakness will result.



An important aspect of stock management is knowledge of conservation methods and preservation of library material. Conservation includes:

- i) Prevention of deterioration and restoration of deteriorated library material, and
- ii) Treatment, storage and handling techniques to ensure that the material remains in current state of preservation.

Manhandling, clumsy or excessive photocopying, injudicious rebinding and improper storage condition do great harm to the library stock. More than the library user it is the lower grade staff who due to lack of essential knowledge and careless handling inflict great amount of injury to library stock.

To implement a successful conservation programme, the staff must know:

- The nature of base materials and manufacturing processes of the library materials.
- Principles of use of the equipment necessary to use them.
- The environmental conditions and special storage methods most suited to each form.
- Methods of cleaning and maintenance handling of each item.

Preservation is as much a management responsibility as binding. In fact binding is only one aspect of preservation. Preservation includes maintenance of objects in their original condition through retention, proper care and if it is damaged restoration. A pre requisite for successful preservation programme is the need for clear understanding of materials from which items to be stored are made: Paper based materials (books, periodicals, etc.), photographs, slides, microforms, films, video tapes, sound, recording, view discs and computer tapes and disks.

Robert Patterson has suggested the following steps for a successful preservation planning:

- Examine the environment in the library and the condition of the collection.
- Prepare a disaster plan
- Examine current practices (binding, handling, processing, repair techniques), recommend changes and ascertain additional requirements to meet current standards.
- Ascertain what professional conservation advice and expertise are available to the library.
- Time when an item needs treatment beyond the facilities available in the library or needs to be withdrawn from circulation.

The greatest enemies of books are dust and dirt. Though airconditioning is the only final solution, regular dusting and routine cleaning would help avoid the damage. Dust and dirt should not be allowed to accumulate on open shelves. Insect, pests can be disposed off by placing the book, with leaves opened, in a warm cupboard containing paradichlorbenzene crystals for about two weeks. Special attention should be given to old or rare books collection. Ancient bindings with metal bosses and corners and fine ornamental bindings need special care. These bindings have to be either protected by loose cloth covers or enclosed in carefully fitted boxes lined with some soft material to guard against friction, Apart from careful handling, these material should be supplemented by judicious application of leather preservative where appropriate. This fluid cleanses a great amount of dirt from the old bindings and also enhances the appearances of old leather as well as retarding deterioration, without harming the skin.

Self Check Exercise

10) State what precautions are to be taken to preserve documents in a library.

Note: i) Write your answer in the space given below.

ii) Check your answer with the answers given at the end of this unit

.....
.....
.....
.....
.....



12.8 SUMMARY

Binding is one of those aspects of librarianship which gets less attention and hardly appreciated. But conservation of library materials is an important element of collection development in any library as much as acquisition. A book saved is a book earned. A stick in time certainly saves not only spine but also the book.

The overall goal of library book binding is conservation of documents for the future as well as for current use. What is important for a librarian, to know, is not so much the techniques or processes of binding or the types of binding material, but to understand, cultivate and appreciate to develop a right policy our approach to book conservation. This objective could be achieved better by a basic knowledge of binding processes, materials used and related aspects of the techniques of binding.

It is essential to know that different library materials require differential treatment in taking decisions on binding. The basis of such decisions depends upon on the nature of library materials with reference to their thick-fleas, quality of paper, format, intrinsic value and possible and probable use, etc. The quality of binding depends directly on the quality and value of library materials and their short and long range use. Organisation and management of binding work assume greater significance in view of the overall nature and scope of conservation work in libraries.

12.9 ANSWERS TO SELF CHECK EXERCISES

- 1) The main objectives of binding of documents in a library are to:
 - To extend the life expectancy of books and other documents by insulating them against heat and tear;
 - To maintain library materials in good condition for constant use;
 - To give aesthetic appearance to books, enhancing the life of the book.
- 2) Library materials that need binding are:
 - General books that constantly in demand and heavily used,. Reference books of constant use ;
 - Periodicals
 - Library materials which are fragile, rare and expensive items, archival records, newspapers, etc. Are not usually bound but are preserved in microforms, because of their intrinsic value and for their longer life,
- 3) The criteria for choosing an outside binder are:
 - Reputation of the binder for good workmanship, time taken for binding etc.
 - Facilities for safe custody and care of materials given for binding
 - Financial responsibility for material sent for binding;
 - Additional services that could be offered.
- 4) The processes of binding are: a) Collating all parts of books and pages in a proper sequence; b) Sewing; c) Attaching covers; d) Fixing end papers; e) Colouring edges of pages; f) Fixing head bands; g) Providing hollow backs; h) Finishing.
- 5) Collation is the process by which all the parts and pages of a book are arranged in its correct sequence for binding. This aspect is particularly important in the case of periodicals wherein all the issues of a title with its title page, contents page and index are sequenced properly and prepared for binding. Special care also should take care of damaged books.
- 6) The different kinds of library binding are: a) Publisher's casing and paperbacks b) reinforced binding c) Specialised binding or different categories of documents in a library d) Full/Half leather binding e) Full/Half cloth binding f) Perfect binding for cheap books g) Plastic covering for books.



- 7) The main features of library binding specification related to : a) Specific instruction of collation; b) Sewing for different types of paper quality; c) Quality of end paper to be used ; d) Cutting edges; e) Forwarding with reference to using, French joints, tight or close flexible backs, etc; f) lettering in best gold directly on the material which covers the back; g) Sizes to be determined by the measurement of the board.
- 8) Binding materials include a) Covering materials - Boards and materials like leather, cloth and paper; h) Sewing thread, thread gauze and tapes; c) Adhesive like paste, glue and gum; d) Decorative materials such as dust cover and lettering materials.
- 9) The activities of a binding division are; a) Identification and preparation of materials for binding; b) Recording of all such materials requiring binding; c) Specification of the style of binding. Lettering and special instructions to the binder in accordance with the binding policy of the library; d) Reviewing materials, particularly periodicals and damaged books, prepared for binding e) Compiling statistics on binding with reference to style, of binding for different categories of documents received from various divisions of the library.
- 10) Precautions in preserving documents in a library include a) Shelving of books neither tightly nor loosely; b) Handling books and documents with care both by library staff and the users; c) Protecting documents from dust, dirt and insects using appropriate preservatives; d) Providing temperature and humidity controls in the stack room; and e) For specialised and rare, materials, additional care should be given.

12.10 KEY WORDS

Bands	:	Narrow elevation on the spine of books caused*by sewing cords.
Bindery	:	A place where books are bound.
Buckram	:	A strong, stiff cotton textile used for covering books.
Collation	:	The process of examining and checking new books for completeness, presence of all the illustrations, etc. The variation of the number and order of the pages and section of a volume.
Cuneiform	:	Wedge-shaped letter sin which old Persian Babylonian inscriptions were written.
DDT	:	A water insoluble solid chemical, used as an insecticide.
Endpapers	:	A sheet of paper at each end of a book which is inserted by the binder to help fasten the sewn sections to the cover.
Finishing	:	The part of binding concerned with the book after it has been into it cover. Includes tooling, lettering and polishing.
French Joints	:	A joint by keeping boards a short distance from the back, splitting the boards and placing tapes between, thus allowing greater play at the hinge and permitting the use of a much thicker leather or cloth than otherwise.
Gilding	:	To coat the edges of pages of books with gold leaf or gold coloured substance.
Headbands	:	A band across the top edge of the book block, usually of silk,, linen, or cotton and fitted to the contour of the back of the, spine.
Hollow	:	The space between the back of a book itself, i.e., the folded and sewn sheet and the spine of a book.
Hollow Back	:	A binding in which there is space between the back of the book.

12.11 REFERENCES AND FURTHER READING

- Mittal, R.L. (1987). *Library Administration: Theory and Practice*. 5th ed. New Delhi: Metropolitan Book Co. (P) Ltd. Chapter 11.
- Ranganathan, S. R. (1960). *Library Manual: for Library Authorities and Library Workers*, 2nd ed. Bangalore: Sarada Ranganathan Endowment for Library Science. Chapter 56, pp. 208-225.