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**Subject---Preservation and Conservation of library materials**

# MENDING OF BOOKS BY PASTES AND ADHESIVES

Books need to be mended from time to time according to their dilapidates condition. After going through the various stages as required by a particular document , the document is cleaned, washed, deacidified and sterilized, the document becomes ready for repairing and mending as well as for lamination, the final restoration technique for the document as a whole. When the extent of damage is less or the documents may be weeded out after sometime, only repairing or mending is done for such documents. Repairing is also done for part of the document or a few pages whichever needed.

In case of repairing or mending same type of base material as was used in the original document, is used. By this way both the base materials can be integrated. With this base material a paste or adhesive is used for repairing. There are different kinds of paste used for this purpose. The main ingredient of repairing and mending is the paste. Availability, price, material, utility, harmlessness, durability and other related factors should be considered while choosing a paste. The quantity and effectiveness should also be considered. Basic materials and preparation of some paste generally used for library materials are given below.

**Dextrine Paste----**Dextrine ( 2.5 Kg.),Water( 5 Lts.),Oil of cloves (40 grams)**,** Saffrol(40 gms),Barium Carbonate(80 gms). **Starch or maida Paste---**Maida (Wheat Flour)-250 gms, Water-(2 Ltrs.), CopperSulphate-(8-10 gms.), Glycerine –(5 Gms,)

Maida should be added to boiled water as described above like dextrin paste. A solution of copper sulphate solution should be prepared with little water and is to be added and Maida is mixed up. The paste will be boiled for some time and will start frothing. At this time paste should be well stirred so that there may not be any charring of starch at the bottom. At the last phase of cooking, glycerine is mixed and well stirred. Then the paste is prepared and can be applied on cooling.

While repairing is done by paper, starch paste is used. If the repairing is done by tissue paper or chiffon, dextrin paste is used. Although these pastes are used widely these have certain effects on paper. The insecticide elements of the starch paste gradually loses its strength. When books grow old, starch paste becomes a good food for insects and damaged by insect accelerates. In many cases, dextrin becomes acidic and deteriorates the paper. It is therefore, not highly dependable.

CMC Paste

More dependable and long lasting paste is CMC paste. It stands for carrboxymethyl cellulose. Sodium salt of CMC has been proved to be an effective in very low concentration in water solution.

REPAIRING OF NON-BOOK MATERIALS

The non-book materials which require repairing and mending are mostly maps, charts and graphic materials like prints, engraving, photographs, pictures, etc. The non-book materials which are mostly reading materials like monographs, pamphlets, offprints, monographed documents, etc. can be repaired like books or paper documents . Each of the non-reading non-book materials should be specially repaired considering their physical nature and base materials.

Maps vary in size and are made on paper or cloth. Most maps are large in size and these have to endure more strain in use than ordinary paper. They do not have also strong support. Both cloth and paper are vulnerable to mould growth and insect attack. Adhesive and loading materials used in maps are prone to be damaged. Usually the repairing method of map is mounting. It is a process of reinforcement and strengthening.

Mounting on cloth, *malmal* or long cloth is a good repairing method for longer life and gaining strength to withstand wear and tear. Paper mounting is not durable at all. The mounting cloth is moistened in water and stretched on the glass top table and fixed to it. The map or chart, usually one side blank, to be mounted is cleaned and flattened. It is placed face down on a wax or glassine paper and paste is applied to its back. It is then transferred from the glassine paper to the stretched cloth and uniformly pressed. The piece of cloth used for mounting should be likely larger than the size of the map or chart to be repaired. When the mounting is done and the map is dry, the margins can be trimmed on two sides and top side and bottom side are pasted with wooden rods. Maps and charts are to be kept flat and stretched. Folding can cause damage to maps. In repairing each map should be taken as particular case so mounting should be done after proper examination of the damage and other factors.

If the surface or the face of the map is found to be cracked or broken, chiffon can be used for protection. A piece of chiffon has to be cut to required size and then placed over the affected portion of the map. It is pasted with the help of a brush from center to edges. Then the map is covered with waxed paper and rubbed from the top to ensure proper repairing. It is to be dried under light pressure. Charts can be repaired in the same method.

Repair of graphic materials, prints, drawings etc is rather a complicated job. It should be entrusted with professional picture restorer. Only some minor repairing may be done in the library. The combination of wide variety of paper as base material, various kinds of inks and colours, different kinds of glues and adhesives, varied techniques used in painting mediums make the repair and restoration job most complicated. It is to ascertained first whether the colors are water soluble or not. If it is not water soluble then the library personnel can do the repairing job. The stages of repairing should be followed as required. First, the material should be sterilized. Then these should be dry cleaned with art gum. Stains should be removed or reduced by using solvents, but proper care and precaution should be taken in using the particular solvent. Then these should be soaked in cold water to relax the base materials. Hot distilled water may be used.