

The Development of Interventive Conservation Treatment Techniques: Procedures for the Repair of Artifactual Library and Archival Materials

INTRODUCTION

A primary focus of the physical treatment program at The New York Public Library Conservation Lab has been the continual development of interventive treatment techniques designed to meet the specific preservation requirements of artifactual material which balance both condition and structural factors and ethical considerations. The objective of the procedures is to retain as many of the original components of the item as possible while restricting the degree of physical alteration by minimizing the incorporation of repair material. An overview of the principal operational elements which for the program is outlined below.

THE PRESERVATION DATABASE

The New York Public Library Preservation Database is a comprehensive specification and processing software application developed by Marc Reeves and Errol Somay which has been in operation at the Preservation Division since 1988.¹ The database serves as a nexus for all physical treatment procedures and contains more than 108,000 records documenting individual item and project condition assessment, specification, treatment operations, and time and materials costs. The software system includes various forms of documentation: bibliographical information, survey spreadsheets, testing results, textual and illustrative recording of material and structural features, and protective enclosure manufacture. Each workflow processing step is integrated, from the survey phase through treatment to the return of the item to service. The modular design provides a customized interface for each treatment option, coordinating resource allocation and item tracking, and generating and maintaining all associated documentation records.

THE PHYSICAL TREATMENT DATABASE MODULE

A unique aspect of the automated system is that the structure of module is derived from the categories of physical treatment procedures. There is a main bibliographic workflow with search capabilities which allows for the importation of MARC records or scanned catalog cards. A complete spectrum of treatment procedures for all formats of library and archival materials is delineated; the options can be expanded, modified and updated. Treatment descriptors are accessible from a pull-down menu. The module operations used for the processing of artifactual material are listed below:

- Barcode inventory tracking
- Bibliographical control
- Project management
- Survey
- Time log
- Resource/materials allocation
- Protective enclosure program interface
- Treatment specification
- Documentation
 - textual/visual records
 - condition description
 - treatment procedures
- Technique interface

THE *LABTECHNIQUE* MANUAL

The most recent development in connection with the Preservation Database has been the incorporation of "LabTechnique," an on-line graphically-oriented training manual, into the database itself. The multimedia manual serves as a visual reference guide which defines specification terminology and treatment options for non-treatment staff within the institution; more importantly it functions as a digital training tool, explicating standardized physical treatment procedures for artifactual

material in a variety of formats, substrates and media: books, manuscripts, prints, drawings, maps, photographs and posters.

The inclusion of a variety of interventive treatment techniques has been a principal design objective of the manual. Digitized film-based documentation, including standard slide formats and photomicrographs, and most recently, video-imaging, will provide the visual background for each segment of the multimedia presentation. The effects of various examination and treatment operations can be defined, recorded, modified and expanded because of the flexibility of the format. One addition to the overall scheme of the manual interface is the incorporation of relevant information pertaining to historical manufacturing and restoration practices. The segments of the manual currently in production are listed below:

- Physical treatment procedures
- Examination/Testing methods
- Condition assessment of artifactual material
- Design/Construction of microclimates
- Historical manufacturing practices
- Historical restoration practices

ARTIFACTUAL CONSERVATION: CODEX FORMAT

Items in codex format can be considered to be the most vulnerable type of artifacts since in an institutional setting it is often difficult or impractical to divorce this type of material from the utilitarian role which still remains a primary attribute. The preoccupation with functional considerations often leads to the justification for extensive alterations in construction. The binding is often considered to be a disposable component, not an integral part of a composite structure that can be characterized as a product of human workmanship. The basic precepts of artifactual conservation for codex format are as yet undetermined and one of the most important responsibilities of the conservator is to promote both an awareness of and appreciation for the methods of fabrication of this type of object.

SPECIFICATION METHODOLOGY: CODEX FORMAT

The relationship between the physical condition of the item and the acceptable degree of alteration has to be defined. This step is of particular importance when dealing with bookbindings where structural concerns related to poor construction practices have to be taken into account as well as problems associated with deterioration and the use of poor quality material. The sequence of operations undertaken during the specification process are listed below:

- Condition assessment
- Identification: format, materials, construction
- Determination of physical damage and extent of deterioration
- Examination of structural components, mechanical operation
- Physical treatment
- Selection of treatment operations
- Authorization
- Treatment procedure
- Documentation

PHYSICAL TREATMENT PROFILE

Both the particular format and the extent of documentation are determined by the artifactual significance and the treatment specification of individual or groups of items. The information record is quite flexible in configuration; the level of documentation required will vary depending on the artifactual significance and physical condition of the material. It is especially important to document damaged components prior to any treatment procedure involving any degree of modification or alteration. The visual record provided by photodocumentation has proven to be the most objective and accurate record. Individual treatment records consist of the following elements (fig. 1):

- Barcode number
- Bibliographical information
- Documentation
- Specification
- Treatment activity log
- Treatment category summary
- Photodocumentation

INTERVENTIVE REPAIR TECHNIQUES OBJECTIVES

It is essential that the repair techniques be adaptable, not rigid imposed solutions. In addition to the tools traditionally associated with treatment repair operations other types of tools and equipment have proved to be quite useful in manipulating weakened or damaged materials: synthetic fan brushes, deerfoot brushes, cleanroom swabs, flexible Teflon spatulas, Teflon folders, self-adherent wrap and syringes.

- Stabilization
- Retention of original components
- Minimal degree of alteration
- Reversibility/Durability dependent on type/amount of materials incorporated
- Minimal obtrusiveness of repair dependent on design/construction of repair

INTERVENTIVE TREATMENT TECHNIQUES TOPICS

The following topics pertaining to the repair of material in codex format are included the LabTechnique manual:

Treatment Category: Structural repair of bindings

- Board attachment/reinforcement
- Textblock consolidation
- Re-adhesion of binding materials
- In situ paper repair of bound volumes

ACKNOWLEDGMENT

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NOTE

1. The New York Public Library Preservation Database
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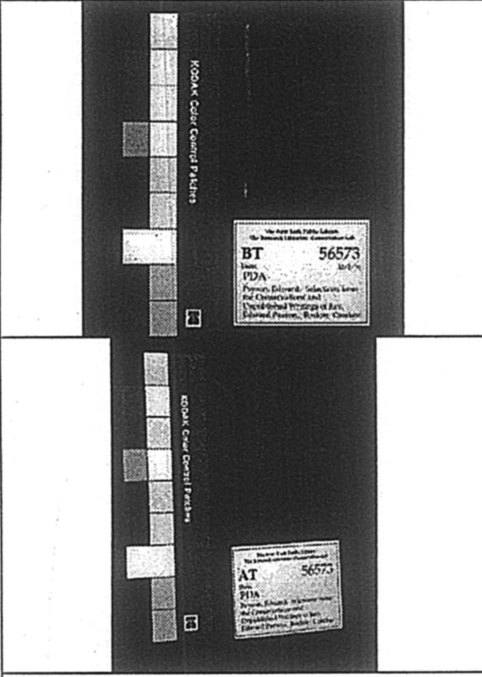
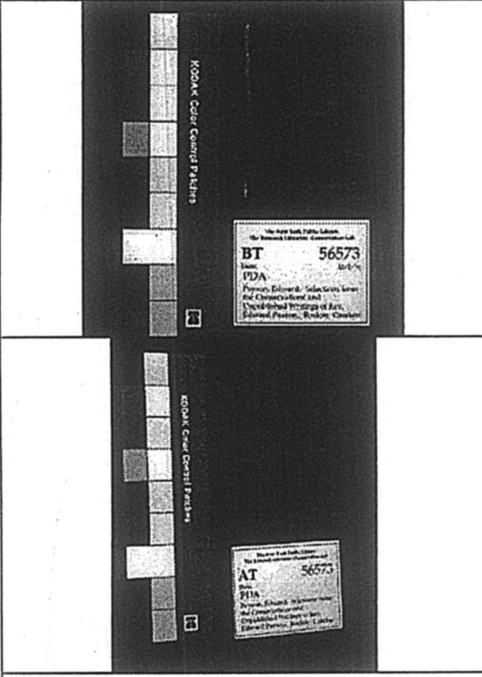
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Fig. 1. Example of physical treatment record