At-Risk Collections: A Digital Response

A MLA/TSD Discussion
Johns Hopkins University
Sheridan Libraries

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Why Digitize?

• Digitization for access
  – Does not imply preservation
  – Can be for any collection/item/reason, e.g., exhibits, discovery, etc.

• Digitization for preservation
  – Does imply access
  – Is about targeting specific collections/items
  – Is about preserving knowledge/information in perpetuity
  – Knowledge/information is more than just the content of a page
  – Adheres to strict Digital Preservation Standards
Targeting At Risk Collections

• Physical Risk
  – Items no longer capable of being conserved or too costly to be conserved
    – Brittle Books (1830s-1980s)
    – Brittle Papers: archival documents, maps, art on paper
    – Production methods introduced corrosive byproducts: iron gall ink, copper pigment, steel plate printing
Physical Risk: Brittle Materials

- Not just about pH
- Breakage of paper
- Loss of mechanical performance
- Repair or re-binding not possible
- No viable conservation intervention that is not complex or costly
ARL estimates 25-33% of general collections in major Libraries are brittle.

This estimate verified across institutions.

At risk collection strategies:
- Microfilming
- Photocopy
- Replacement
- Digitization
Targeting At Risk Collections

• Financial & Security Risk
  • Items with some significant value needing controlled access (financial risk with both access and preservation dimension)

• Extinction Risk
  • Possibly in fine condition, unique or last copies represent potential threat of loss or damage and thus extinction from the corpus of the human record (both access and preservation dimension)
    – Dead Sea Scrolls
    – Declaration of independence
    – Etc.,
Targeting for Security or Financial Risk
Targeting for potential loss or extinction

- Good paper, but light sensitive pigments will fade with time and use
- Capturing digitally while colors are true is warranted
Targeting for Physical Risk: The Brittle Problem
Training Staff to Identifying Brittle Materials

Acid paper timeline

<table>
<thead>
<tr>
<th>Acidic/Brittle Book &amp; Paper Timeline</th>
<th>Acid Free Paper</th>
<th>Unknown</th>
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</thead>
<tbody>
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<td>Medium Rare Timeline</td>
<td></td>
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<tr>
<td>Mixed Papers</td>
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</tbody>
</table>

- 1800
- ca. 1850
- 1900
- ca. 1939
- ca. 1988
- 2006
Guidelines: Brittle or Not?

- **Acidic/brittle paper** is the breakdown of the cellulose molecule.
- **Inherent in ground wood papers**
  - Introduced ca. 1830 & regularized in by 1900 in industrialized countries
  - Present in all papers used for printing, books, stationary, albums, maps, music, newspapers, ephemeral, art on paper (selectively), archival records, etc.
- **Manifests as**
  - Yellow to brown discoloration, starting at the edge and moving toward the center of the page
  - Loss of paper’s flexibility—stiff, dry, breaks or fractures
  - Offgassing—smells like acid or vinegar (VOC)
All are brittle!
Preventing Misinterpretation: What is not inherently brittle paper?

The Timeline

• Any paper produced before the timeline, because it is not ground wood based.
• Any paper produced from a country which did not industrialize paper production, across the timeframe.
• Cotton and linen papers are not inherently acidic, but can become acidic or brittle by:
  • being placed next to acidic papers
  • other acidic processes that have been introduced during printing
    • copper pigment
    • iron gall ink
    • metal plate printing
Foxing

• Staining due to multiple factors but is not a sign of brittle paper

• Can be corrected by conservation. Not an at risk physical issue.
Staining

• Looks like brittle but is not

• Unsightly but can be corrected and is not at risk.
• Acid burn from metal (steel) printing plates introduced in mid 1800s.

• Acid burn can be corrected by conservation treatment and is not at risk.
Iron Gall Ink Corrosion

• Some ink recipes are acidic and will eat through paper in various degrees.

• Paper is NOT acidic, but the ink is.

• Damage cannot be reversed, but can be arrested by conservation.

• If you cannot treat or it is extensive, digitization for preservation is warranted.
Maryland, 1779

I am now in a city near which I have a brother in Philadelphia. This brother is married and has two children. I have heard from them and they are both well. I trust they will write to me soon.

I enclose a letter from them expressing their love and affection.

Their father, Mr. Smith, is well and doing well. He is a hard worker and a good provider for his family. He sends his love and wishes for our welfare and happiness.

I hope you will take care of yourself and your family. Please let me know how you are doing.

I remain,

Yours sincerely,

Mr. Smith

Maryland, 1779

I have received your letter and am pleased to hear that you are doing well. I trust you will continue to be healthy and happy.

I have enclosed a copy of my will in case anything should happen to me. Please ensure it is taken care of.

I hope to visit you soon and see how you and your family are doing.

I remain,

Yours sincerely,

Mr. Smith

John Smith

John Smith

[Signature]
Copper Corrosion

- Copper extensively used to create green pigment in printing maps.
- Does cause good paper to become brittle.
- No conservation remedy currently available.
- Candidate for digitization before color loss is best.
What was once green is now brown due to corrosion of green copper pigment. Looks like brittle paper, acts like brittle paper, is now made brittle but for different reasons.
Brittle Collections at Risk

- Publishers Bindings
  - Textblock brittle, covers in tact
- Serial Literature
  - Not brittle now, but will be
  - Go digital for serials prevent a future problem
- Paperbacks
• Pamphlets
• Ephemera
• Newspapers
• Maps
Maps/Atlases

- 1889 plats from Baltimore City
- Rebound and repaired decades ago
- Now brittle
- Item selected for retention and receive “full treatment”
Pre -and Post Digitization: Conservation Intervention:

• Correct any aesthetic or physical defects before image capture
  • No one wants damage recorded for posterity
    • Repair tears
    • Fill in losses
    • Remove tape
    • Remove extraneous materials
  • Prepare item for capture
    • Provide appropriate supports
    • Open untrimmed pages
    • Disbind if needed

• Capture cover to cover including attending information, book plates, inserts, etc.
• If item is to be retained after digitization, pre-digitization intervention will be impacted by post digitization decisions
Preparing for Digitization
• Removing tape so staples can be removed.

• Removing staples to improve openability for image capture.

• After digitization, items will be boxed.
All physical issues inhibiting good capture should be corrected.
Physical Condition
Pre-Digitization Conservation
Digitization for Preservation

This or This

This
Das deutsche Bilderbuch

Marinkind

Heinrich Lehle, Joseph Heben,

Text

Uebersetzung von J. Schütz, Marne
After digitization, each page is deacidified and encapsulated.
Each page is matched up and sewn back into a book and boxed.
Cost = labor
For some, digitization is not enough.
Navigating the Physical Issues

• Working collaboratively for meaningful and strategic engagement
  – Conservation Engagement
    • Pre and post conservation intervention for digitization
    • Consulting for special collections materials
    • Advising to unique information or physical features
  – Preservation Engagement
    • General collections preservation wounded program
Navigating General Collections: Selectors, Users, & Circulation
Liz Mengel

- Preservation wounded: A partnership process targeting the general collections at risk
  - Circ staff trained to identify the issues
  - Selectors trained to identify the issues
  - Patrons can also bring items of concern to Circ desk
  - Items moved to “Preservation Wounded Shelf”
    » Located in the same place as their approval plan review, thus streamlining review processes
    » Negotiating ambiguities and backlog—confusion over interdisciplinary call numbers & respective curatorial ownership
    » Institute a timeframe—if no curatorial decision is made, physical condition trumps content
  - Selectors review and determine appropriate decision based on their subject skills and knowledge of what is being taught in their respective fields
  - Choices: replace, withdraw, do nothing, rebind, digitize, conserve
Strategic Observations

- The Process works well on an item by item basis in response to immediate needs.
- This model, however, is not scalable.
- A different model is needed for scalability.
- Currently working on a script that will cross reference and analysis the general collection by LC class and decade of imprint in order to assess scale and distribution of embrittled materials.
- This will allow analysis of the state of the problem across disciplines and enable a strategic response.