

Preparing for Digitization

Selecting Items for Digitization

Every institution has its own motives and priorities for digitization projects, may it be for access, outreach or preservation. An institution should clearly articulate their goals for digitization and create a process for selecting items for digitization. The Canadian Council of Archives' Decision Tree for Digitization Projects¹ is a great resource for assisting with the selection process. The following are questions to consider during this process.

Questions to help inform an institution's selection criteria:

- Informational and Historical Value
 - How do the records relate to the acquisition policy? Other digital resources?
 - Are the records unique?
 - Are the materials visually appealing?
 - Is there an audience for the material and how will they use it? Is there a demand to digitize the material? Does this demand justify the cost of digitization?
 - Does creating a digital surrogate protect the original record from handling?
 - Can the records be safely digitized? Should the material be treated by a conservator prior to digitization?
 - Is there any value-added to the material through digitization (i.e. the ability to search documents through optical character recognition, improve legibility, or provide access to otherwise fragile/restricted material)?
 - Has the material been arranged and described? Is there a finding aid available? How will relationships between records be digitally illustrated when a fixed physical order may be absent?
- Access Concerns
 - How will the institution control access to and use its digital surrogates?
 - What search and exhibition tools are necessary to facilitate access?
 - Will material have fees and restrictions or be available via open access?
 - What quality of images will be provided online and to researchers? Will images published online have a lower resolution than those provided to researchers through requests?
- Legal Concerns
 - Does the institution have the legal right to create and disseminate digital surrogates?
 - Is the material in the public domain?

¹ Canadian Council of Archives. "Digitization and Archives." Accessed October 15, 2014.
http://www.cdncouncilarchives.ca/digitization_en.pdf

- Can permission be acquired from the rights holders?
- Material that is under copyright can be digitized for preservation purposes, but may not be disseminated without the copyright holder's permission.
- Are there any privacy concerns with digitizing the records?
- Technical Concerns
 - Is there a technical infrastructure and in-house expertise available to create and maintain digital surrogates?
 - Can high quality digital surrogates be produced?
 - What metadata is required?
 - Is there in-house expertise available to enhance or manipulate the digital surrogates if required?
 - What technical specifications have been identified (file format, file storage, dpi, database, etc.)
 - Where will the digital surrogates be stored? What search functions will be available?
 - What is the long-term preservation strategy for digital records? Are there resources to support this strategy (financial support, software, hardware, etc.)?
- Financial Concerns
 - Do the benefits outweigh the costs of digitizing and maintaining the records?

Prioritizing Susceptible Media

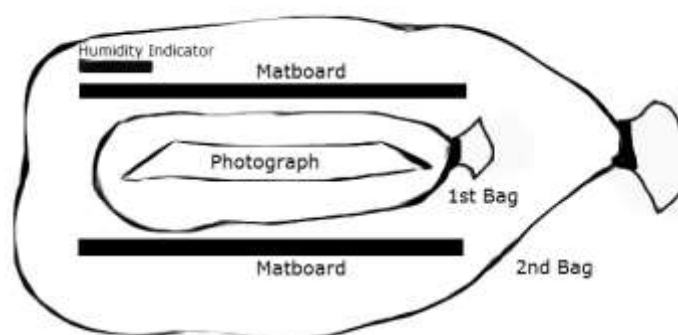
In an archival collection, there are numerous kinds of media within the records, some that are more susceptible to deterioration than others. If these records have historical significance, they should be prioritized for digitization. Digitization is sometimes discussed in literature as digital surrogates or, less commonly, conservation surrogates. Many photographic processes render susceptible media. These include:

- Daguerrotypes: If removed from their cases they can corrode, leaving the image indiscernible.
- Ambrotypes: Gilding powder is sometimes used to inpaint jewellery; this can corrode. Also, the collodion emulsion layer can crack or flake off of the support, or oxidize which leaves a gaseous colouring.
- Tintypes (milanotypes or ferrotypes): The emulsion layer can crack, where they can rust in the presence of moisture.
- Cyanotypes: Undergoes reciprocity failure. They will fade with too much exposure to light, or turn purple-pink with exposure to alkaline (buffered) products (ex: buffered tissue).
- Nearly all coloured photographs are light sensitive, with some being temperature sensitive.
- Cellulose nitrate negatives or films: They are unstable, and combustible at 40°C.
- Cellulose acetate negatives or films: They are unstable, and will undergo vinegar syndrome over time, emitting acetic acid. This is bad for the collection and toxic for the staff. Note: All 16 mm film is cellulose acetate.
- Documents with unstable iron gall ink actively deteriorating the substrate.
- Important, and valuable newspaper clippings.
- Important records with yellowing tape or laminate.
- Records with seals or stamps attached or adhered along a crease.

Temporary Housing

After the susceptible media is identified, it should be properly housed while it waits to be digitized.

As degradation involves active chemical reactions, the reactions must be slowed down by housing the media in cold storage. It is important to ensure that the storage is kept below -5°C and below 45% RH. Note: Do not store glass negatives, lantern slides, daguerreotypes, ambrotypes, tintypes or records with wax seals in the freezer.



How to House a Photograph Intended for Cold Storage

Figure 1.

- Photographs should be stored in polyethylene bags, then sandwiched between matboard and put into a second polyethylene bag. Place a humidity indicator inside of the second bag to monitor the moisture content. Cellulose acetate negatives and films should also be bagged, but with the addition of MicroChamber paper with zeolites or activated charcoal to absorb off-gassing acetic acid (see Figure 1).
- House records and smaller photographs in Mylar enclosures, placed within a polyethylene bag and a humidity indicator.
- Items that should not be frozen should be stored in archival folders, in a flat Hollinger box, away from any light source.

Handling Susceptible Media

Take extreme care when transporting the susceptible media from its temporary storage to be digitized.

- Prepare a clean table and cut pieces of Gator Board in rectangles and squares that will fit the records. Cut archival folder stock to the same sizes as the Gator Board and adhere to one side of the Gator Board using archival double-sided tape. Ensure that the digitization room is kept cool for the purpose of working with cellulose acetate and cellulose nitrate.
- Remove items from the freezer, and allow them 24 hours to equilibrate to the environment before digitizing them.
- Remove select records and photographs chosen for digitization and place on the prepared boards. Put a sheet of Hollytex over the record and fold the Hollytex under the Gator Board. These sandwiches can be carried over to the flatbed scanner one at a time.
- Do not touch the centre of the photographs or negatives; always hold them at the edges wearing clean gloves. If too much dexterity is lost wearing gloves, handle them with clean hands, and short nails. Exceptions to working without gloves are tintypes because oils left by fingertips will eventually etch into the metal plate; and cellulose acetate and nitrate negatives

because they emit toxic by-products and are heat sensitive. In these cases, gloves must be employed.

- If a record is tightly folded, do not force flat; have a conservator humidify and flatten it.
- Do not place photographs emulsion side down except when scanning; it can scratch and abrade the emulsion, or coatings over the emulsion can pick up soil.
- Do not attempt to remove tape, adhesive, or laminate from the records.

Digitizing

- Have a flat-bed scanner ready, and the proper program installed on the computer.
- Ensure that the scanner, photoshop and printer are all set to the same colour space, RGB or CMYK.
- Ensure that the scan meets conservation standards: 4000 pixels along long side of image. You want optical resolution and a high dynamic range which captures the many shades of grey. Tiff is an accepted preservation format. Choose lossless, non-compressed Tiff for the Master file. Please refer to the resources listed below for more specific technical specifications.
- Also save a JPG copy that can be distributed to researchers. Keep the Master copy separate from the distributed copy to avoid damage, or loss of the file.
- Digital output: a digital print of a digital file.

Before discarding the original, compare it with the digital surrogate.

- Is there any information missing?
- Is the image a clear rendition?
- Are the colours true?

Resources

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