

The SEVEN DEADLY SINS of DIGITIZING PHOTOS

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Note: a previous recording of this presentation (audio with slides) can be viewed here: https://youtu.be/_a8RYfA6B7E

INTRODUCTION

Every day, we come across digital images that have been improperly digitized or improperly handled. The damage to these images may be unrecoverable, *especially* if original prints or slides no longer exist. Learning the best practices for handling digital images is crucial in making sure images will be preserved for the future.

PREPARING TO CREATE A DIGITAL ARCHIVE

- **What will these images be used for?**
In the age of social media, some photos aren't meant to live forever. But for photos that are worth keeping, make sure you follow these standards so your photos will outlive you.
- **Creating a “digital negative” or “gold plate” standard for digitizing**
When scanning a photo/negative/slide *or* capturing a digital photo on a camera or device, make sure you get a large, high-quality capture in the first place. This high-quality file will be your digital negative that you store safely away, making copies for daily use.
- **Options and resources for proper archival digitization**
If you have a lot of old photos and documents to scan, consider getting help from professionals or volunteer resources such as family history libraries or genealogy associations. They can save you a lot of time *and* help ensure the job gets done properly.

THE SEVEN DEADLY SINS OF IMPROPER DIGITIZATION (AND HOW TO AVOID THEM)

1 **LOW RESOLUTION! (Make sure you get enough pixels.)**

A photo that will be printed needs *four times as many pixels* to look good as one that will appear on a typical device screen. Even screen resolution is rapidly increasing, so images that may look fine on today's screen will look pixelated on a high-def screen in the future. **Archivists recommend a minimum size of 4000 pixels on the longest side.**

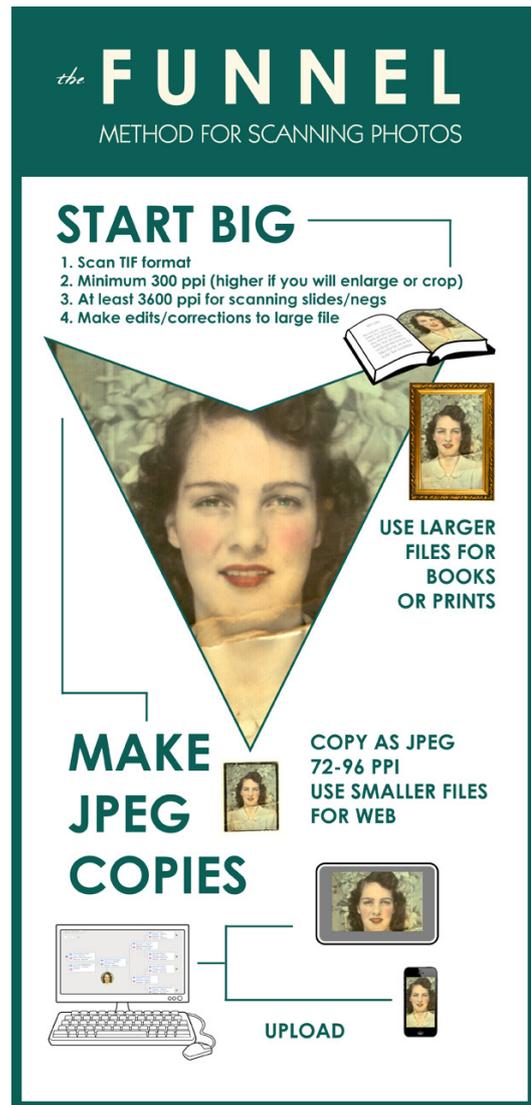
- a. Rule of thumb: scan at a **minimum of 300 ppi/dpi** (pixels per inch) at original. If you will ever want to crop or enlarge the photo, or if it is very detailed such as a group photo with many faces, scan at 600-800 ppi. **When in doubt, choose 600.** (Unless you are scanning a tiny photo that you want to enlarge, scanning above 800 ppi is not recommended. If your files are unnecessarily large, they will take up too much space and slow your computer.) 35 mm slides should be scanned at 3200–4000 ppi, since their surface area is much smaller.
- b. Archive/store your camera or device photos at their original resolution when downloading or uploading from your device.

- c. Increasing the resolution of an existing digital photo with editing software just makes your file bigger, not better! It will only make artifacts look worse.

2 HIGH COMPRESSION! (Avoid JPEG “smooshing” where possible.)

Jpeg or (.jpg) is the most common file type used today. But it’s not the best option for creating a digital archive of your important photos. Jpegs are “compressed” to save space, which makes them upload faster to websites. But too much compression throws away important digital data and can permanently damage your photos if you’re not careful. Overcompression causes visible “artifacts” (those blocky, distorted pixels with funny color shifts that you can see when you print or zoom in on screen). To avoid compression when creating your digital negative:

- a. When scanning, set your scanner to save as a .tiff (which uses “lossless” compression) instead of a .jpeg if possible.
- b. If you do scan as a jpeg, find the advanced settings in your scanner and set the quality level to the highest possible (=least amount of compression.) Don’t use auto mode.
- c. Don’t edit a jpeg photo. Repeated editing will compress the file further each time it is saved, which can cause damage. Do your editing in a .tif or .psd (Photoshop) format.
- d. Use the “funnel method” of handling digital photos (see infographic at right). Scan/capture large and make smaller copies for uploading or web use.
- e. **“I’ve already scanned my photos as jpgs! Do I need to rescan them all?”** Don’t panic! Probably not. If the resolution is high enough, just make sure to follow letter C above. Keep your original jpeg scans as your digital negs and make copies for editing.
NOTE: Saving a jpeg scan or photo as a tiff does not improve file quality, just file size. The only reason you would want to do this is if you will be editing the file.



3 WRONG FILE FORMAT! (Learn what format is best for what purpose.)

So many different file formats are available! How do you know which ones to use when digitizing?

TIFF - gold standard for scanning photos. (PNG is also high-quality, uncompressed format and can be used for images that need transparent backgrounds, such as logos.)

RAW - gold standard for capturing photos on a digital camera

JPEG - if used properly, best for uploading to websites and emailing

PDF - use to scan *only* typed documents that will not need photo editing, especially multi-page documents like books. Anything else (including census records, certificates, etc.), scan as a photo (preferably tiff) so you can adjust or edit if needed.

BMP, GIF, EPS and other file types have their legitimate uses but should be avoided when scanning or capturing.

4 NO IDENTIFICATION! (Use metadata to identify images).

Digital devices capture metadata each time you take a photo: date, time, location, exposure, etc. But did you know you can also **add** metadata: attach captions, contact information, and other identifying information to a digital photo which will *travel with the photo* when copying, sharing or uploading? You can add metadata with Adobe programs such as Photoshop, Bridge, or Lightroom, and many other apps. [Look for a program that will allow you to edit XMP (user-entered) data, not just EXIF (device capture) data.] For more information about metadata, view this presentation <https://youtu.be/w8mJNpKaYqU> or [this blog post](#).

5 BAD STORAGE! (Organize and upload images; take proper care of media.)

There is nothing more painful than losing precious family memories due to a hard drive failure! Redundancy (see #7) is the key. Here are some things that can go wrong:

- a. **Disk degradation and drive failures.** CDs, DVDs, flash drives, and hard drives are all prone to breakage, failure, or corruption. Make sure you label and safely store hard material, keeping it away from heat and light.
- b. **Theft/loss.** Upload camera/device images right away to another location or use an automatic backup app. Don't leave months of photos to languish on your camera.
- c. **Business fails.** When choosing a cloud storage option, make sure you use a reputable company that isn't likely to go out of business. Better yet, use multiple sites. Make sure you know how to download as well as upload your data.
- d. **Disorganization.** How will you or anyone be able to find and enjoy your digital photos? Having a simple organizational system and keeping it current is important. For more information on this topic, see [The Sock Drawer Method](#) and [How to Organize Your Digitized Genealogy Photos](#). For help in organizing and digitizing your originals, view this presentation [Mountains to Megabytes](#) .

6 INCORRECT TRANSFER! (Learn how to upload/send full-resolution images.)

Now that you have created your digital negatives, make sure they stay in pristine condition when you share, move, or upload your files.

- a. Emailing photos: if the recipient needs a high-quality file, make sure to add the photo as an attachment, and choose "original file size" when emailing from a device.
- b. If uploading to cloud storage, find out if the service you use compresses your photos. Some free sites (like Google Photos free version) will store smaller versions of your

files. I use Google Photos to automatically back up the photos on my phone, but for scans and special photos I make sure I upload them to another site that doesn't downsize them (and keep a copy on my hard drive).

- c. When uploading a photo to a genealogy or family website, upload the largest file size the site will allow. This will ensure that the photo will be useful for others. FamilySearch.org Memories is a great place to store genealogy photos you want to make available to the public, and you can upload .tiff, .jpg, and .png files up to 15MB.

7 NO REDUNDANCY! (Backup and share.)

You've gone to a lot of trouble to save your photos. Now make sure that you've saved them in multiple ways in case one fails!

- a. Use the **3-2-1 rule** to keep your images safe:
3 different places = 2 hard storage + 1 cloud storage. Hard storage would be discs, flash media, hard drives. As technology changes and cloud storage is easier and cheaper, you may keep only one copy in hard storage and two copies in different cloud storage sites, as long as it is easily and quickly retrievable.
- b. Keep up with technology and convert to newer formats as they come along. Digital files, if properly handled, won't degrade in quality (like a photocopy of a photocopy—or VHS to CD).
- c. Don't be greedy! Sharing your images widely is the best protection. Give copies to family members and post to genealogy websites. (Note: FamilySearch Memories can handle full-res files up to 15 MB. Ancestry.com, Facebook, and Instagram all compress photos upon upload.)

OPTIONS FOR CREATING AND SHARING YOUR DIGITAL ARCHIVE

- Create an archive index (book or digital) with attached storage and give to family.
- Donate copies of your archive to organizations.
- Share your images on genealogy & family websites.
- Share your cloud files with trusted friends & family.

