

Session Notes

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The latest version of this handout, along with keyword files and any other downloadable goodies and links that I come up with, is located at:

<http://www.keptartrestoration.com/#!aic14/c9m9>

Collections management, diagnostics, condition reporting, conservation and restoration have all evolved to rely heavily on digital photos. It doesn't take long before the accumulation becomes a disorganized mess and it becomes difficult to find specific images or sets of images.

One can spend endless hours developing file naming conventions and folder hierarchies on a computer and sorting photos into them, only to discover that one photo might belong in two or more folders, or the realization comes that the naming convention must be modified and all of the photos renamed accordingly.

Typically, a Digital Asset Management (DAM) system would be employed to solve these problems, but they are expensive and often complex, requiring exotic hardware and training. Apple's Aperture and Adobe's Lightroom are known as photo editing applications, but have integrated photo organization features that are faster, simpler and better suited to conservators' tasks. There is a great deal of instructional material on applications like Lightroom that is free or very inexpensive. As Adobe Lightroom is specifically recommended by the AIC in the [AIC Guide to Digital Conservation Documentation](#), and because its evolution is timely, this workshop will focus on Lightroom.

This workshop is about how to prevent your collections of digital images from getting out of control, or getting them back under control.

Here, I define "out of control" as:

1. Not being able to find what you need when you need it.
2. Losing information about the pictures you have
3. Losing track of files on disk to the extent that you cannot back them up, or restore from a backup
4. Duplicates

There are a few other areas that will be covered that will help make your digital images more useful, but in general this workshop and document will focus on organizational strategies.

Workflow

Your image-handling workflow will determine two important outcomes:

- Whether your collection gets out of control
- How much time and effort you expend in organizing versus actually utilizing the collection

Principles of Effective Photo Collection Management

A few principles drive a workflow that emphasizes speed and quality in several ways:

1. You should only have to type anything once.
2. A small amount of time spent upfront will save an exponentially larger time later.
3. Since one picture can belong in many collections, folder organization alone can never succeed.
4. Your digital interventions should be as reversible as your real ones.
5. You should be able to retrieve a single image or all of the images matching some arbitrary criteria at a moment's notice.

Why Lightroom?

- AIC recommends it, and documents how to use it
- Aperture hasn't changed much since 2010.
- Quality: Independent testing has determined that the image processing in Lightroom has [less chroma noise](#)¹.
- There are some tools and methods in Lightroom that make it easier to work with other people. (Though it could really use more!)
- Lightroom is very good at *batch operations*. Meaning that Lightroom knows how to intelligently apply edits across many files in one step.
- Lightroom supports the Principles outlined above

The Zen of Lightroom

To maximize the efficiency and quality in Lightroom, there are a few things you need to understand.

Like you, it wants everything to be reversible. It uses a *nondestructive editing* model; all changes you make in Lightroom leave the underlying image untouched, even cropping. You can even create *virtual copies* to make versions with different edits, without cluttering your hard drive with another copy of the image. This enables other workflows that I'll discuss later. It also means that you'll never use the original files on disk for anything; you'll export new copies for inclusion in reports, presentations, Web sites and so on.

¹ <http://talktog.wordpress.com/2013/10/28/blog-adobe-lightroom-5-vs-apple-aperture-3-5/>

Like you, it works with catalogs. Lightroom's library of images and their edits and other information is called a *catalog* – it's a file on disk with an extension of `.lrcat` – and (though most people don't know this) Lightroom can allow you to switch between several of them. It makes a lot of sense for several reasons to break out into separate catalogs sets of images that will never need to be in the same collections together. But you don't have to; Lightroom's also very good at managing jumbo catalogs.

Like you, it works with collections. There are a great many efficient workflows that rely on Lightroom's collections features, and they're easy to overlook. One image can belong to several collections. A smart collection will simply show you everything in your catalog that meets a certain criteria -- so the collection can stay complete without you having to update it manually. Soon you will find yourself only using collections, instead of struggling with folders.

Lightroom encourages "batch processing." Lightroom lets you apply edits, updates and other changes to batches of photos *en masse* about as easily as editing one photo. This, combined with presets, is what makes Lightroom so fabulous for managing huge collections of photos.

Lightroom needs to know where the files are. If you or a well-meaning but misguided intern moves the files around on your hard drive, Lightroom will lose track of it. It will keep letting you work with what it remembers about the image (a stored "preview" file), but that only works up to a point, and eventually you're going to have to tell Lightroom where the files went to, which is really tedious. There's good news though: If you follow practices we outline here, you won't even care where the files are on your hard drive; Lightroom can usually do whatever you need to do with the files, and do it better. And if a file is misplaced, it's at least smart enough to locate other missing pictures in a folder you point it to, automatically.

Lightroom uniquely has the concept of a primary and secondary selection.

When you select several photos, the first (or else most recent) one you selected will be, well, selected-er than the others. This primary selection can determine which is the "master" for certain batch operations. For example, say you've imported a bunch of photos, but they all have an orange cast because the white balance was set incorrectly. You fix it on one using the Temperature slider, then select all the other photos with the same problem. When the fixed one is the primary selection, you can **synchronize** the change from the fixed one to all of the others in one step.

Lightroom lets you define presets and templates for everything. This is to eliminate repetitive and error-prone data entry (we like that). In many cases you can add variables that let Lightroom automatically customize the preset on a per-photo basis, even when applying the preset to hundreds of photos at a time.

It's all about the metadata. Metadata is "information about information." The title, the day you shot the photo, the filename, the history of edits you've made to the photo -- it's all data about the photo, or metadata. Metadata is what you will depend on for being able to find what you need when you need it AND for not losing information about the photos you have. Note that folder structures on a hard drive

are a pretty shabby way to do both of these things. Lightroom has metadata management features in nearly every stage of the workflow.

Plowing through large collections of photographs and adding metadata can be extremely tedious, even with the tools available in Lightroom. It is vastly easier to get the necessary metadata in as you ingest it into your collection then to go back and add it later.

Reorganizing Folders

The **Folders** pane can and in fact must be used to reorganize photos and folders of photos on your hard drive. Clicking a folder name here displays all of the imported photos in that folder and all subfolders in the main **Grid** view. To the right of each folder name is a number indicating how many photos in that folder and its subfolders have been imported into Lightroom.

Photos can be dragged from this view to other folders in the **Folders** pane. Folders can be dragged from this pane to other folders on this pane, and the folder will be moved on the hard drive. In this manner, you can find strays (folders that just have a couple of pictures, for example, or folders of photos that aren't in the right place to get backed up) and consolidate them into a more controlled organization. (Don't be too concerned about having just the right hierarchy – you're mostly just making sure that you're backing up everything since you'll be using Lightroom organization and search tools to find pictures when you need them.)

Note that the Folders pane only shows folders that have pictures that have already been imported, or have been created from within Lightroom. The Import dialog, however, gives you access to every folder on your hard drive.

Right-clicking a folder will give you several advanced options. The first two are the only ones that will be used most of the time. The first one allows you to create a subfolder. The second allows you to rename the selected folder.



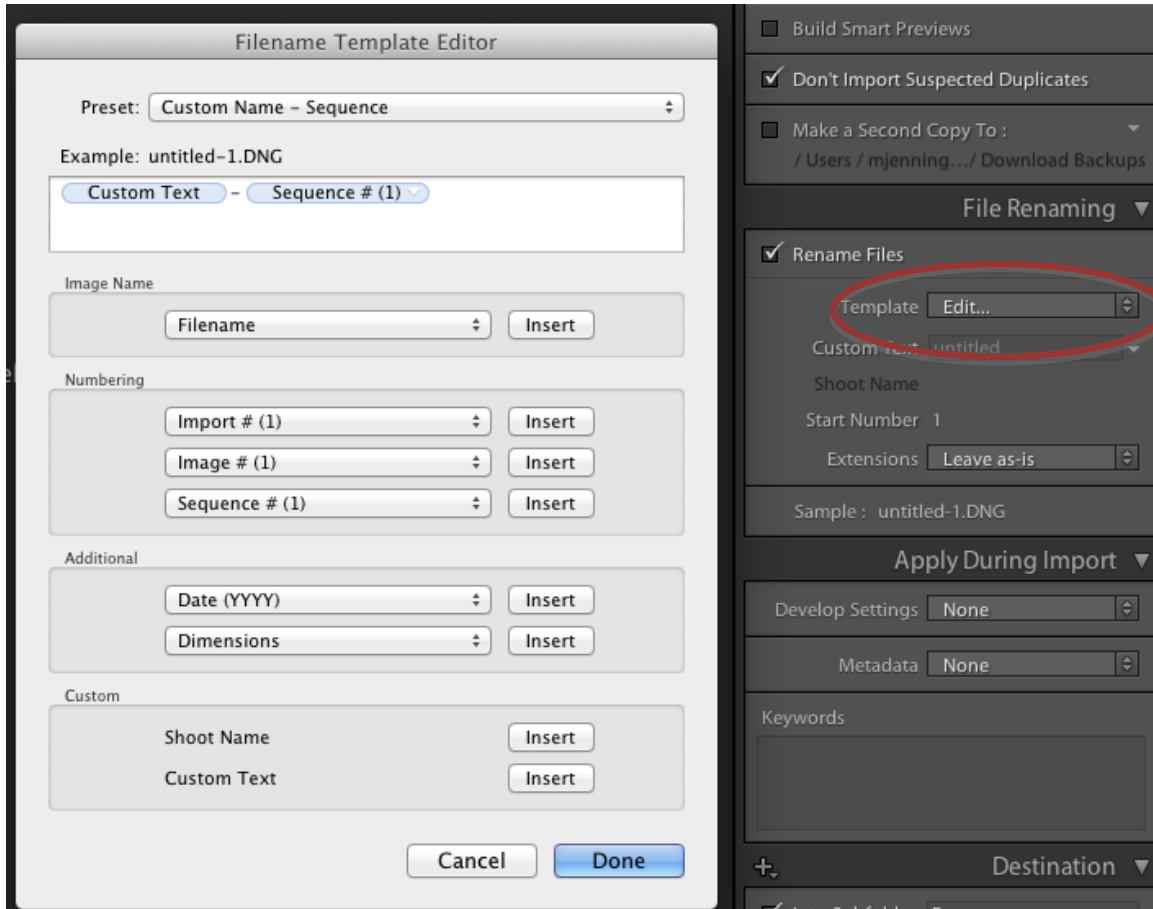
While managing these folders, there will be occasions where you want to rename the photo files. You can rename an individual file by changing its **File Name** in the **Metadata** pane, but it's really the batch renaming features that make Lightroom shine.

File Naming/Renaming

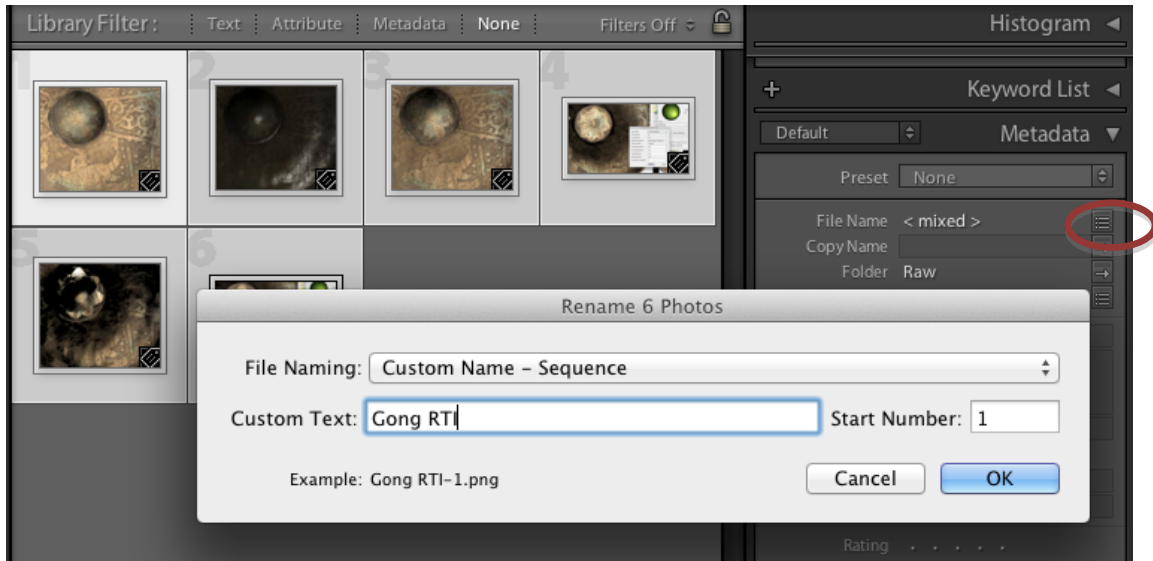
Lightroom's batch-renaming features are very handy. You can set up renaming templates that tell Lightroom how to construct a unique filename for each file, and save these as preset templates that are accessible in various places in Lightroom: **Import**, **Export**, and from the

Metadata pane. From the **Import** screen, select a template from the **Templates** popup, or select **Edit** to make a new one, as seen below.

In this dialog, you can build the template from building blocks. Choose an item you want to be part of the filename and click the Insert button next to it.



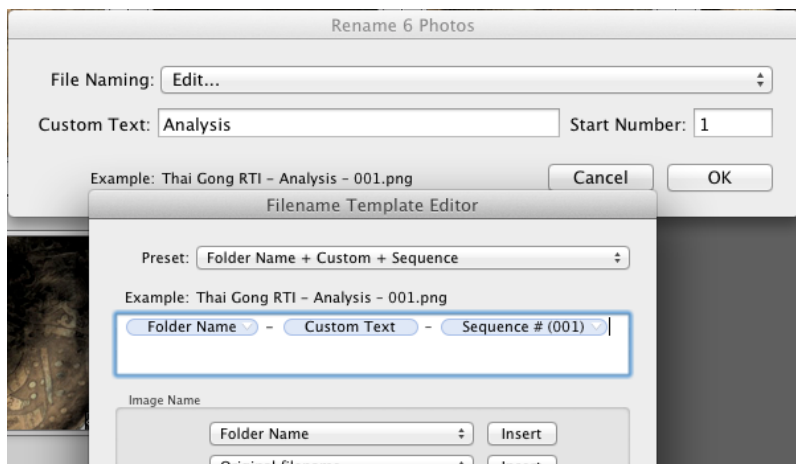
This is a crucial part of the process of reorganizing a hard drive. When you click a folder in the **Folders** pane, all the photos in that folder will appear in the **Grid** view in the **Library**. Select all of the photos you want to rename and click the little menu icon next to the **File Name** field in the **Metadata** pane. In the **File Naming** popup you can select a saved preset File Naming template or edit or create one.



One of the default File Naming presets, **Custom Name – Sequence**, is great for general use. The new filenames will have whatever custom text you enter here followed by a sequence number to ensure that they’re named uniquely.

But you can build your own pretty elaborate one that includes the folder name or date or a metadata field, like **Title**. You can even include the original filename with other elements if the filenames are valuable; a default preset, **Date – Filename**, prefixes the date on which the photo was shot onto the existing filenames.

The nice thing about including the folder name in a preset template is that it makes the folder name it came from searchable within Lightroom automatically. This is part of the solution to make photographs document themselves, or at least to eliminate having to type it again.



Metadata: The Document needs Documentation

Metadata is in fact *the* key to not drowning in a rapidly-accumulating collection of images. It's documentation about the document. There are three classes of metadata we'll discuss here:

- **Technical metadata** – the image size, format, compression scheme and so on. This is the information the computer needs to know in order to display the picture. Happily, you seldom need to concern yourself with it.
- **Preservation metadata** – documentation of the digital edits that were made to the image, who made them, who has what rights, what angle the lighting was at, and so on. This also includes camera data (aperture, focal length, what camera was used, etc.)
- **Descriptive metadata** – captions, descriptions, comments and keywords that you will use to find the files and know what they mean to you as a conservator.

Lightroom figures out as much technical and other metadata as it can from the file itself, then uses whatever you put in a *metadata preset* for the rest.

A *metadata preset* is a set of tags (or fields, or properties) about a picture. Often, your pictures will have many of the same bits of information you want to store with them -- what accession number they're associated with, or a project number, a title, an artist, a client, your name, the rights for the digital pictures and so on. If you add that to a metadata preset, you can have Lightroom apply all of that metadata to all of the images that you're ingesting (importing) into your catalog. Type it once, then Lightroom takes it from there.

Supposing you hastily imported a bunch of photos without applying a metadata preset, you can still apply that preset by selecting all of the pictures in **Library** mode and selecting the preset from the **Preset** popup in the **Metadata** pane.

Presets aren't the only way to enrich the photo with metadata. By selecting images in **Library** mode and typing data into fields in the **Metadata** pane or keywords in the **Keywords** pane, the new metadata will be applied to all of the selected pictures.

Occasionally, you'll have one image that's a good example for all the others, almost a metadata preset in its own right. In Library mode, select all of the pictures with similar metadata needs. Make sure the one you fixed is the primary selection and **Synchronize** metadata to all the others. You can even choose which fields you want copied onto the other photos so that they don't get the metadata that uniquely applies to the primary selection.

There's even a little *spray can* tool that you can use to "spray" metadata onto a bunch of pictures.

With metadata that Lightroom determines and tracks for itself (such as the edit history) plus the metadata you've added during import, the files can effectively be "born archival" -- ready for archival submission right out of the gate and at any time thereafter.

Collections

Collections are like folders in some ways; they can be nested, you can drag and drop, rename etc. However, they have several advantages:

1. A photo can be in more than one collection

2. *Smart Collections* can be automatically and continuously updated
3. Integration with Lightroom Mobile is done through Collections
4. You can have *collection sets* (collections of Collections that aren't nested)

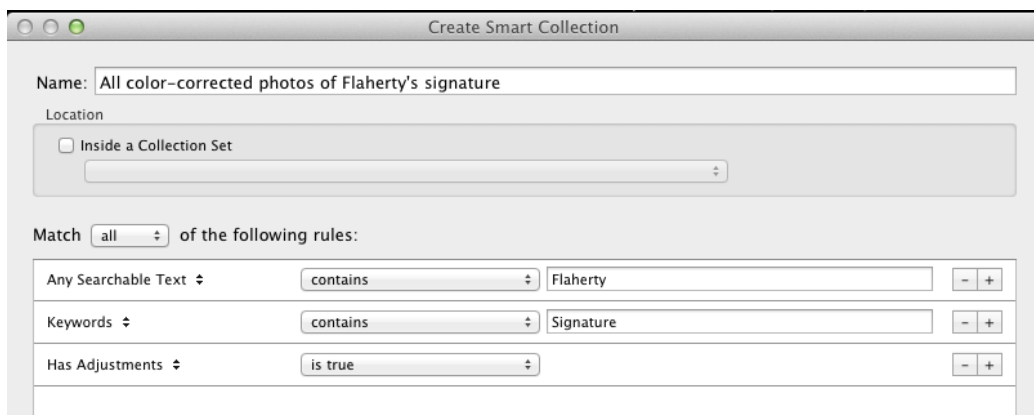
This should be your main organizational system, rather than folders. In fact, if it weren't for managing hard drive backups, I wouldn't care where on the hard disk pictures were stored at all. I would access them and use them all from within Lightroom's search and Collections.

Quick Collection

The Quick Collection is accessible in various places, and is used like a handy temporary holding tank for whatever images you're interested in at the moment.

Smart Collection

Smart Collections are collections that you don't manually add photos to. Rather, they show all of the pictures that match a criteria you describe. For example, you could set up a folder with all the "before" and "after" pictures for a certain category of art, like paintings. These pictures may exist in Collections and folders all over the place, but are automatically gathered and easily accessible here. The photos are not moved on disk or in your Collections. And as you add new pictures matching these criteria to your other Collections, they'll automatically show up in the Smart Collection.



Keywording

Keywords are *tags* that are specific to certain photos, making them easier to find later. They are widely used and broadly supported. For example, photos exported from Lightroom and posted on sites like Flickr will preserve the keywords and even display them on the Flickr page automatically. People who search for pictures containing your keywords can therefore find your posted photo.

Side Note: Searchability on the Web

Most photo sharing sites index the metadata and offer options as to whether to give individuals or the public permission to see the picture or its metadata. If your photo is posted on a site that does, and you've set the permissions accordingly, Google

searches can also locate it. Even if you’ve simply embedded the picture on a simple HTML page, Google can search on some of the metadata, including the keywords and title. Unfortunately, [Google is vague](http://www.searchenginejournal.com/matt-cutts-answers-google-uses-exif-data-pictures-ranking-factor/92289/)² about which of these they’re actually using, probably in order to make it hard for advertisers to clutter Google Image Search results by stuffing tons of irrelevant keywords into photos. See the link at the beginning of these notes for further information.

Keywords differ conceptually from the standard metadata properties in that they mark a photo with something that not every photo will have. For example, you might tag a detail photo with “Signature” because this shot happens to show the signature, and that’s interesting, and you might want to be able to find it quickly later. But the vast majority of your photos won’t have the signature, so it doesn’t make sense to have a standard “Signature?” property for all photos.



Keywords will be the most frequently used search field to find your photos. Keywords can also be used for other things, like Smart Collections.

Keywording, like most organizational functions, is done in Library mode.

You can directly enter keywords (the default is that the **Keyword Tags** popup is set to **Enter Keywords** for this method), and Lightroom will offer completion suggestions based on what you've used before in order to ensure consistency. There's also a list view of all the keywords you've ever created, imported or used; changing one (e.g. correcting a misspelling) will change that keyword for all of the photos that used it. There's another section with list of the most recently used keywords for convenience, and you can even display prepared subsets of your most commonly used keywords, and switch between subsets based on the kind of work

you’re doing.

Nested Keywords

But the real power is in *keyword hierarchies*, or *nested keywords*. By nesting keywords you can establish a context for keywords that would otherwise be ambiguous (does "Portrait" refer to Subject Type, or to the frame format?). What's

² <http://www.searchenginejournal.com/matt-cutts-answers-google-uses-exif-data-pictures-ranking-factor/92289/>

more, adding a deep keyword will effectively add all the keywords above it (i.e. if you add the nested keyword "Gouache", you've effectively added "Painting" and "Object" if it was nested under those keywords. Three keywords for the price of one! We like that.) You can see this effect by changing the Keyword Tags popup to Will Export -- this shows you all of the keywords that will be added if you export the picture. Searching on any of the displayed keywords will find this picture.

It's easy to wind up off in the weeds trying to make the perfect keyword hierarchy or making sure every photo is tagged precisely. If you're ever going to share or publish your collection that will be important. If you only plan to use it for your own reference, remember that the main goal is to tag it enough so that you can quickly find what you're looking for later, and find out what you're looking for when you retrieve it. The search results may not need to be perfect -- if you can get it down to a couple dozen pictures instead of an ocean of them it might suffice. The trouble comes when you do decide to share or publish a collection -- that's when the metadata has to be spot-on, and fixing it later can be an overwhelming and unrewarding task. So for family snapshots you can play it a little loose, but for professional work it might pay off handsomely to nail it right when you import it.

Keyword Synonyms

When you create a keyword (or double-click its entry in the **Keyword List**), you have the option of specifying one or more synonyms (separated by commas). For example, say you've settled on "Fungus" as the term you want to use for Mold or Mildew. When you create or edit the Fungus keyword, type "Mold, Mildew" into the Synonyms box. Later, when you're searching for pictures of mold damage, you won't have to remember that you decided to just call it Fungus. Searching on "Mold" will find all the pictures tagged with the "Fungus" keyword.

Note that there are some unfortunate limitations to the use of synonyms in the current version of Lightroom.

1. You cannot tag a photo with a synonym – it creates a new keyword in its own right that is not associated with any other keyword. This means that your search results may subsequently be incomplete.
2. You cannot use the synonym in the **Keyword Filter** of the **Keyword List** to find the "correct" keyword when you can't remember it.

There is a plug-in called [AnyTag](http://www.johnrellis.com/lightroom/anytag.htm)³ that can be used to work with synonyms more completely.

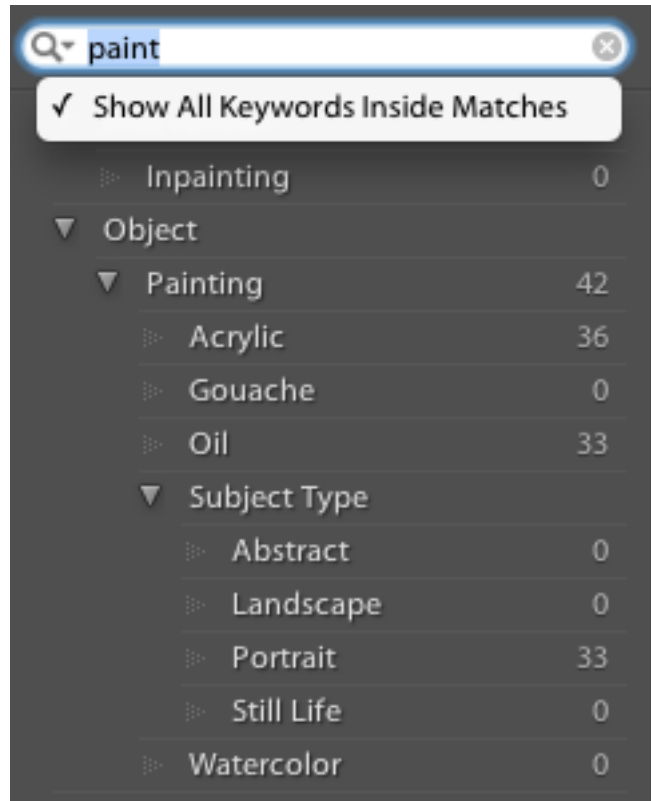
One final note about synonyms: If the "Export Synonyms" box is checked in the dialog where you entered the synonyms (for the "Fungus" keyword in this example), the picture will be exported with "Fungus", "Mold", and "Mildew". This may not be what you want, so you may want to uncheck that box.

³ <http://www.johnrellis.com/lightroom/anytag.htm>

The Keyword List

Every now and then you may find yourself trying to recall what standard keyword you were using for something. “Was it ‘woman’ or ‘women’? And what keyword is it under?” This is the domain of the **Keyword List**.

Typing into its search bar restricts (“filters”) the list to the keywords that have that sequence of letters in them, revealing them regardless of how deep in the folder hierarchy they are – instantly. In the example above, you might type “wom”, and it would show that you were using “women”, and that “women” is under “subject type/portrait”, and even that there are 33 photos with that “women” keyword.



From there you move your cursor to that line and a little checkbox appears to its left. Checking that box applies that keyword to selected photos. Or you can select the arrow to the right of the number 33 on that line and you will instantly see all 33 photos tagged with “women”.

Finally, the magnifying glass is actually a menu that allows you to reveal all the keywords within the matching keywords in the hierarchy. This can be damned handy, as you may see in the picture above. By typing “paint” it shows me the entire hierarchy under (and over) “Painting”, allowing me to quickly tag a photo of a painting using the little checkbox at the left of each applicable keyword.

Click the little **x** at the right of the filter bar to see the whole list again.

This pane is surprisingly sleek given how loaded with features it is.

Smart Previews

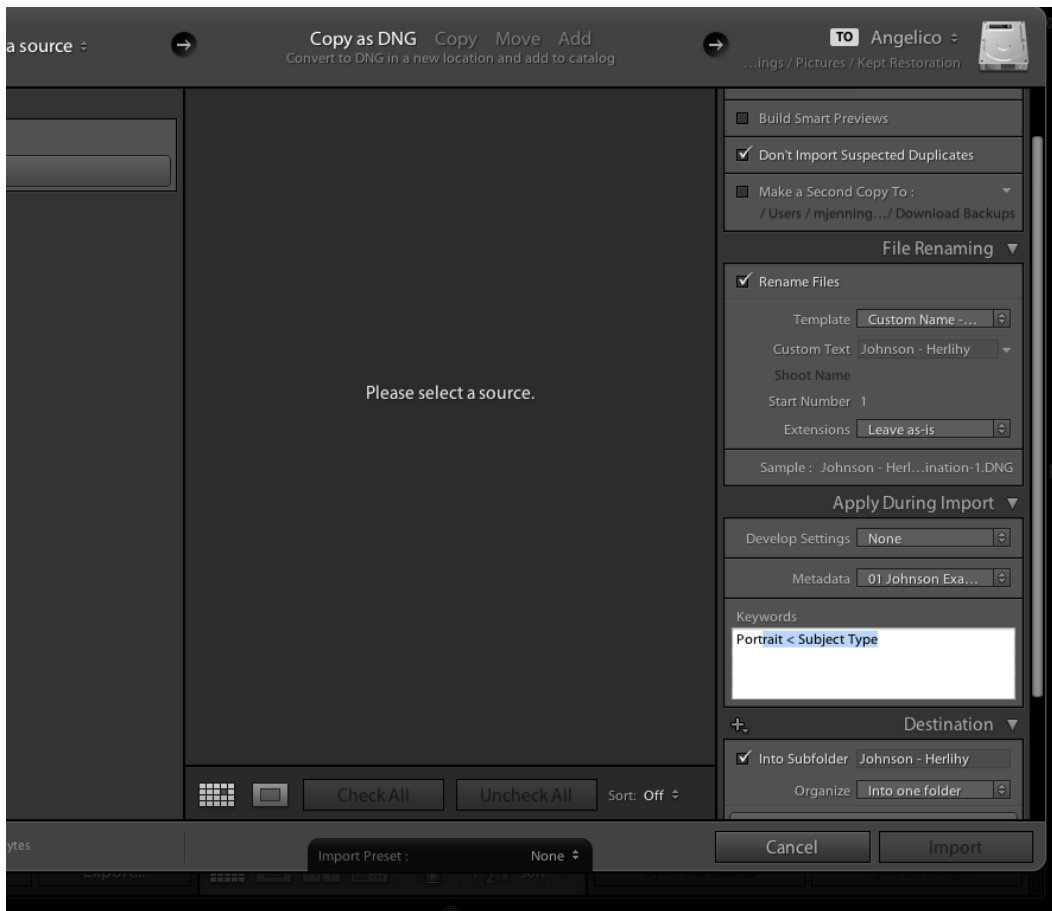
Smart Previews allow you to work with pictures that are “offline”, meaning the master file is on a drive that’s not connected to your system, relying on a somewhat more compact version that is stored with the catalog. This is tremendously useful when your master files are stored on an external hard drive or network file server, especially if you use a laptop. Once the drive is connected, everything you did while it was missing will be quietly applied to the master file instead. It can prevent headaches you didn’t even know you were going to have.

It is also useful when distributing copies of your catalogs to colleagues -- you can give them high-quality versions, but not the highest-quality masters. You can even export good quality DNG files of missing photos.⁴

⁴ In the Export dialog, set **Image Format** to "JPEG" for convenience or "DNG" for best quality. "Original" won't work.

Import – The Moment of Truth

When you ingest, or import, new photos in the system, it's tempting to just select your source and click **Import**. However, this is the decision point that determines whether you will let your collection stay under control or not. This is the moment where you set up the image to automatically document itself as much as possible. Any effort you spend here will prevent an exponential amount of effort later. Remember when I said you only have to type something once? This is it, the time you type it. **Don't let your colleagues, employees or interns import photos into your catalog without ensuring that they will use a proper procedure.**



By setting up import you ensure that you won't have to worry about whether you can retrieve pictures when you need them, or whether they will be missing the necessary descriptive metadata, or if they're in the proper place to be backed up. You let Lightroom accumulate as much metadata as possible here.

The method by which you import your photos depends on its source. There are specific workflows associated with three main sources:

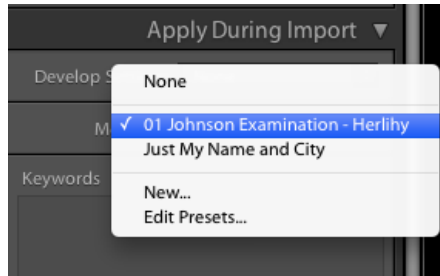
- Already on the hard drive
- On removable media
- Straight from the camera (tethered shooting, or tethered capture)

Importing from the Hard Drive

In this case, the “hard drive” refers to any hard drive that generally stays connected to your system, such as the internal drive in your laptop.

It's best to import in little batches of related photos, such as those related to a specific project. This affords the best possibility of loading the photos with metadata on the way in. Later on you can try importing masses of photos to make sure you didn't miss any -- it won't re-import the ones that are already there.

1. Choose the source folder and ensure that **include subfolders** is checked -- assuming you want the photos nested in the folders within the selected source.

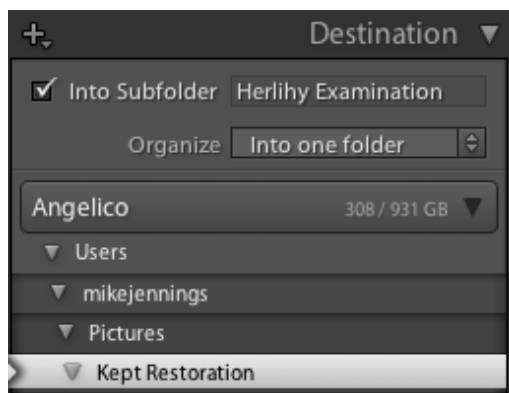
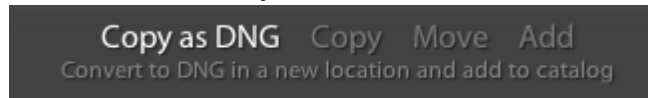


2. **Apply During Import** >

Metadata: Create a new metadata preset, or select an existing one, appropriate to this batch of photos.

3. Choose Keywords: Works best after a keyword hierarchy has been defined or imported.

4. Choose import method: Usually **Copy as DNG** is the best setting. **Add** will leave them in their place, but BEWARE: It will stay in the **Add** mode next time, and if you're importing from removable media next time you will have major problems, usually losing the pictures entirely. **Move** is safer than **Add** for next time, and convenient for knowing what you've already imported, and consolidating media in one general place for convenient backup.



5. If you selected **Move**, then choose a destination folder for the moved files.

6. Unless you selected **Add**, this is your chance to automatically rename all the files. Useful if the filenames are gobbledygook, not so much if you've already renamed them.

Use the **File Renaming** pane to make the filenames something identifiable.

7. Leave **Build Smart Previews** off unless your destination is a separate hard drive, and turn on **Don't Import Selected Duplicates**.
8. Import.

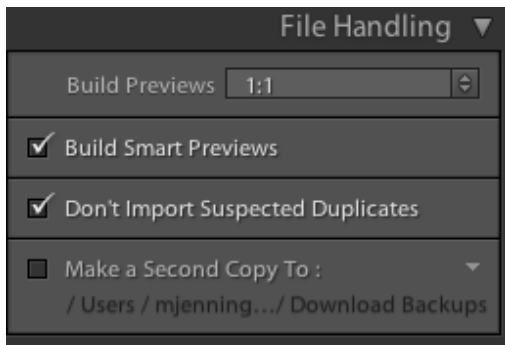
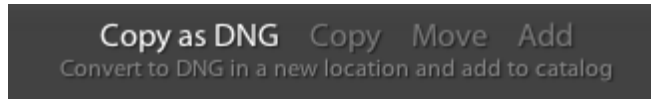
Importing from Removable Media

In this case “removable media” refers to media containing files that you won’t be able to access again later. For example, a drive borrowed from a colleague, or the memory card from your camera.

The procedure is similar to Importing from a Hard Drive above, with one or two key differences.

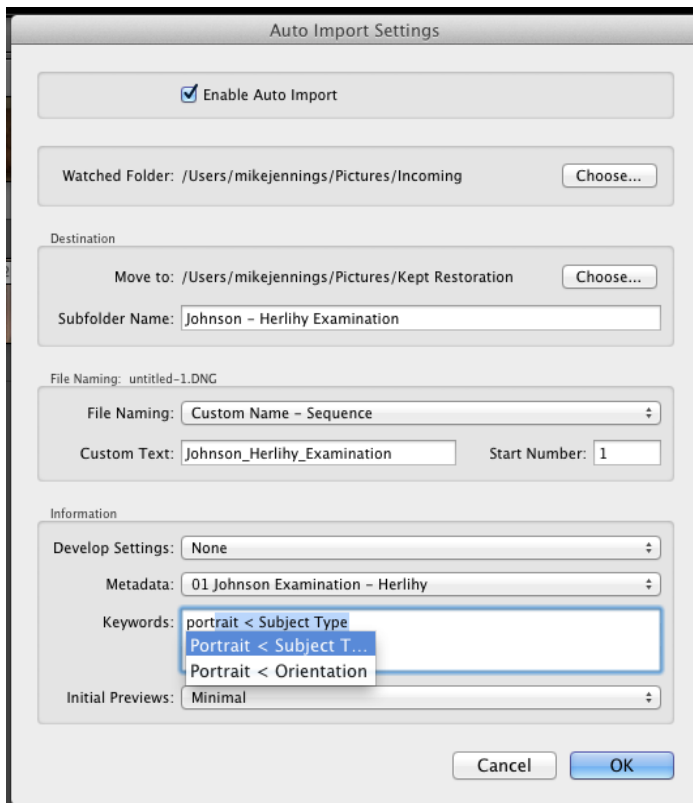
When choosing an import method:

*Never use **Add** when importing from removable media; it won’t actually copy the files onto your system!*



Turning **Build Smart Previews** on is optional, but recommended as it provides a kind of backup in case the files are not copied to your system, and makes it possible to work with pictures when the drive that stores them is not connected.

Tethered Capture



Tethered capture has the advantage of combining two steps (import, and applying metadata) and also giving you a nice big view of the picture as it's being taken. Invaluable for having one person take the photos and one person doing quality checks and actually triggering the exposure. This is documented in the AIC Guide, and also in the guides to capturing RTI.

Lightroom supports it directly with many cameras, but doesn't provide a live preview or as much control as a separate app does. However, it's easy to set up Lightroom to automatically import everything captured in that separate app immediately.

Lightroom will also add metadata as you capture.

First, choose the capture application. [Sofortbild](http://www.sofortbildapp.com/)⁵ for Mac is free and perfectly serviceable for Nikon cameras. [Nikon Camera Control Pro](http://www.nikonusa.com/en/Nikon-Products/Product/Imaging-Software/Camera-Control-Pro-2---Full-Version-%28Boxed%29.html)⁶, or [Breeze System's DSLR Remote Pro](http://www.breezesys.com/DSLRRemotePro/)⁷ are good but cost money. Canon's capture utility is reported to be unstable during long-term use.

1. Set up the folder the capture app is going to put the pictures in. Since the photos will subsequently will be moved it doesn't matter where, as long as the folder is new (empty) and you know how to find it.
2. Set up Auto Import settings in Lightroom (**File > Auto Import > Auto Import Settings**). It should watch the folder the capture app is putting the pictures in, and move them to a folder that's easy to back up, like Documents/Pictures/[project name]
3. Choose a file naming preset. The **File Naming** popup will display all the presets you've used previously when renaming images, and a few default ones, and allow you to create a new one. Making a new one that includes the Folder Name is a great way to preserve useful metadata that you've already typed once!
4. In **Information > Metadata**, create a new metadata preset, or select an existing one, appropriate to this shoot.
5. Add keywords appropriate to this shoot.
6. Enable Auto Import in Lightroom (**File > Auto Import > Enable Auto Import**)
7. Begin capturing in the capture app.

At this point, every time you capture a photo in your capture app, it will automatically come into Lightroom. After the shoot, add all of the pictures to a new Collection.

⁵ <http://www.sofortbildapp.com/>

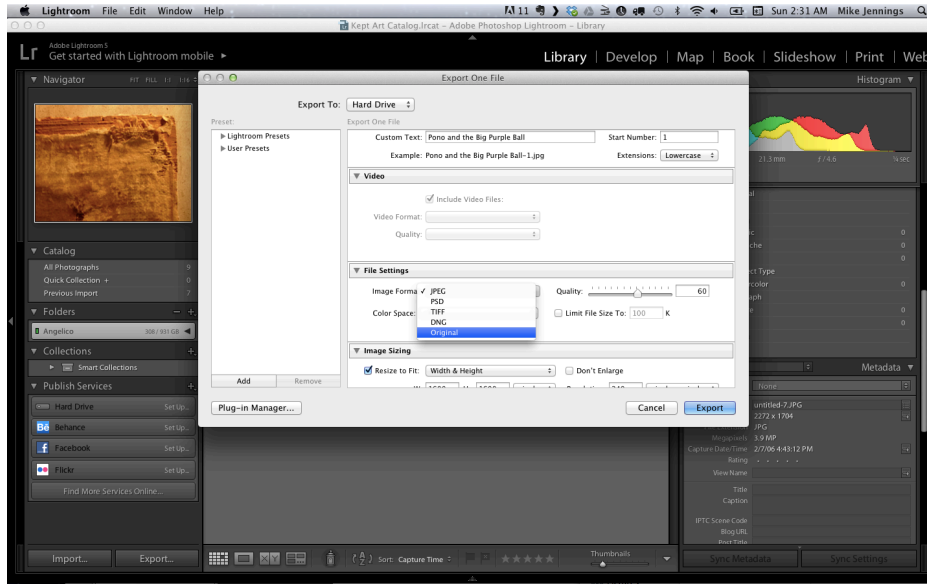
⁶ <http://www.nikonusa.com/en/Nikon-Products/Product/Imaging-Software/Camera-Control-Pro-2---Full-Version-%28Boxed%29.html>

⁷ <http://www.breezesys.com/DSLRRemotePro/>

Exporting - Getting Photos Out of Lightroom

You don't usually distribute your master photo file. You export a version customized for what you need. You'll usually want to change its dimensions, and compress it with JPEG. If you're distributing it, you might want a watermarked version with your name, a copyright notice or a date overlaid on the image. You'll usually want to rename it from `DSC7462819.jpg`. You might want metadata added or hidden.

All of this can be done using *Export Presets*. Setting these up saves time and reduces errors through automation.

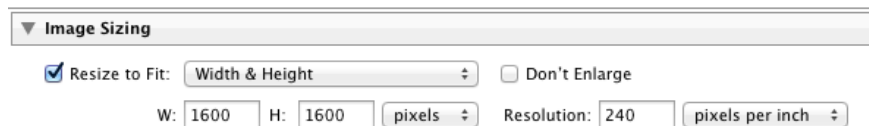


In the **Export** dialog there are several useful settings. Most are self-explanatory. You will no doubt find yourself using the same settings for export, and of course Lightroom allows you to save Export Presets to ensure that your favorite settings can be reused.

Image Sizing

The **Image Sizing** options are worth noting. With

these you can have Lightroom scale down the large master files for use in applications like PowerPoint and email where huge files are a burden. In the example above, all exported photos will be no larger than 1600 pixels in either dimension.



Metadata

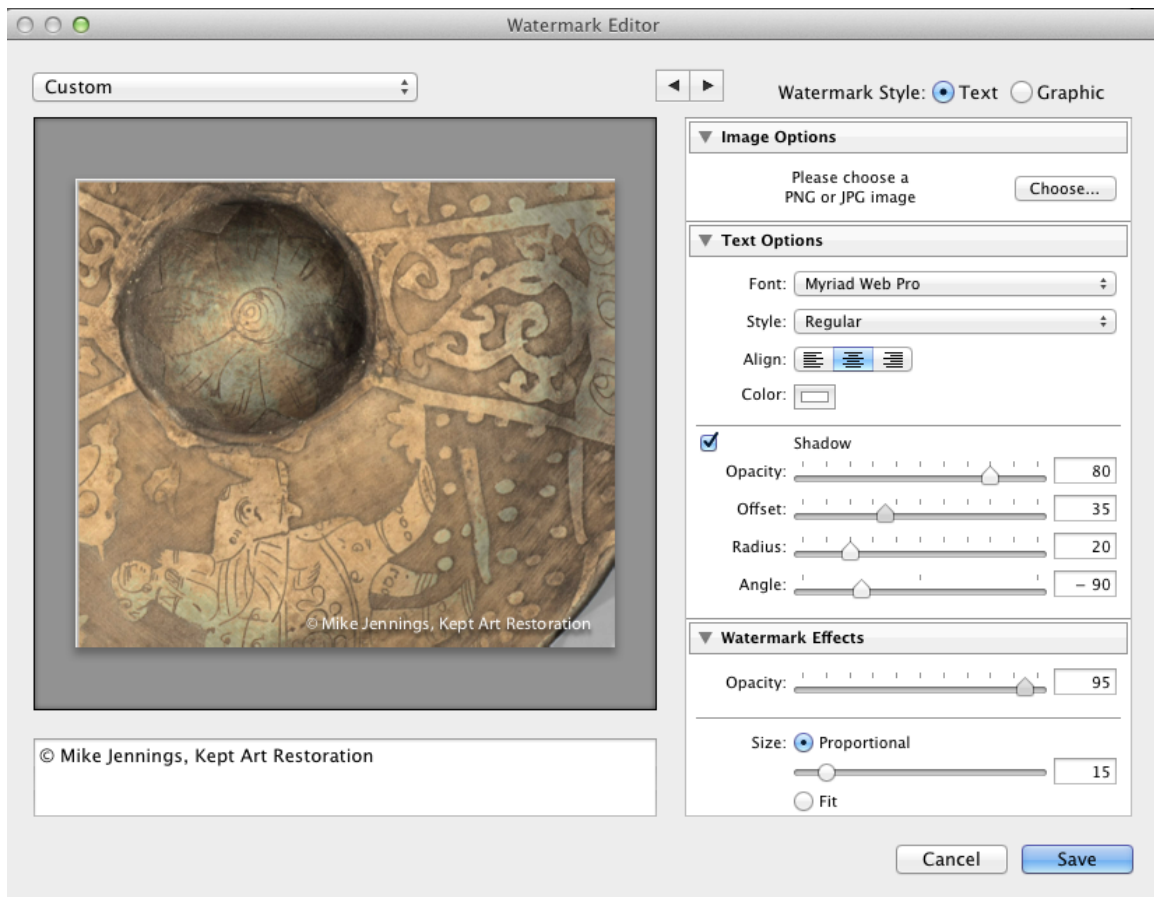
The Metadata settings may prove very important. It can be used to remove private metadata, including the GPS location where the photo was shot (cell phone photos typically have this in the metadata).

If the file is being exported to send to someone for use in their Lightroom catalog, you may wish to **Write Keywords as Lightroom Hierarchy**. If you do so, the file gets all the features of Lightroom’s nested keywords. Otherwise, hierarchical keywords will be exported as a flat set of keywords.

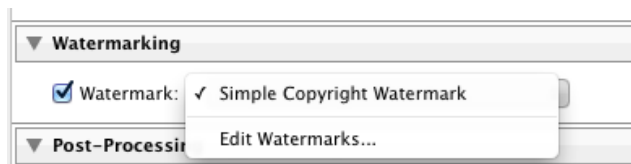
Watermarks

Watermarks are worth noting as well. Lightroom supports defining any number of watermarks that can be superimposed on exported images. This may be just your name and/or a copyright notice to protect your images from unauthorized reuse, or more useful info like the date the photo was shot. It can also be a logo picture. You can even lower the **Opacity**, making the overlay so faint as to only be detectable when you’re looking for it.

Below is the **Watermark Preset** building dialog. Set up as many watermarks as you need and save them as watermark presets.



The **Export** dialog features a popup allowing you to select which, if any, watermark you would like to apply to exported images.

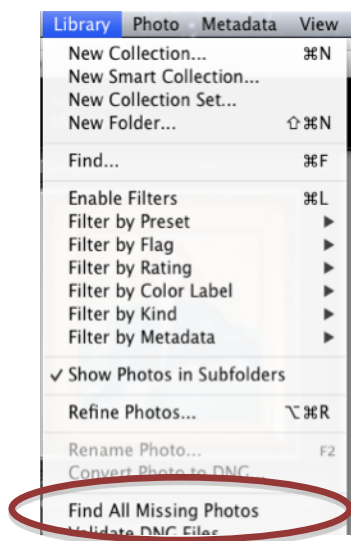


Missing Photos

This is probably the most aggravating problem you will encounter in Lightroom. Photos are no longer located where Lightroom is looking for them, so you are only able to work with a blocky, lower-resolution preview. Sometimes Lightroom complains and asks you to locate the missing photo.

The two most frequent causes for this are:

1. Moving pictures around on the hard drive using the computer's file manager (Finder or Explorer) instead of the **Folders** panel.
2. Importing from removable media in **Add** mode.



If this happens, you will need to reattach the removable media to the computer, then use the **Folders** panel to move those files onto the hard drive. If the media is no longer on the removable media, you're out of luck. Those photos really are missing. If you built Smart Previews on import as recommended above in the import steps for removable media, all is not lost. The compression used for Smart Previews is not as lossy as, for example, JPEG; the pictures may prove usable for most purposes anyway.

It's usually best so sit down and deal with missing photos all at once. The easiest way to do this is with the **Library > Find All Missing Photos** menu item. Right-click a resulting photos and choose **Show in Finder** or

Show in Explorer. It will ask you to locate it. Once you do, it will find all the other photos that were missing in that same folder, and they will disappear from your collection of Missing photos. Work your way through this collection, using the **Folders** panel to move strays back into sensible places, until you are finished.

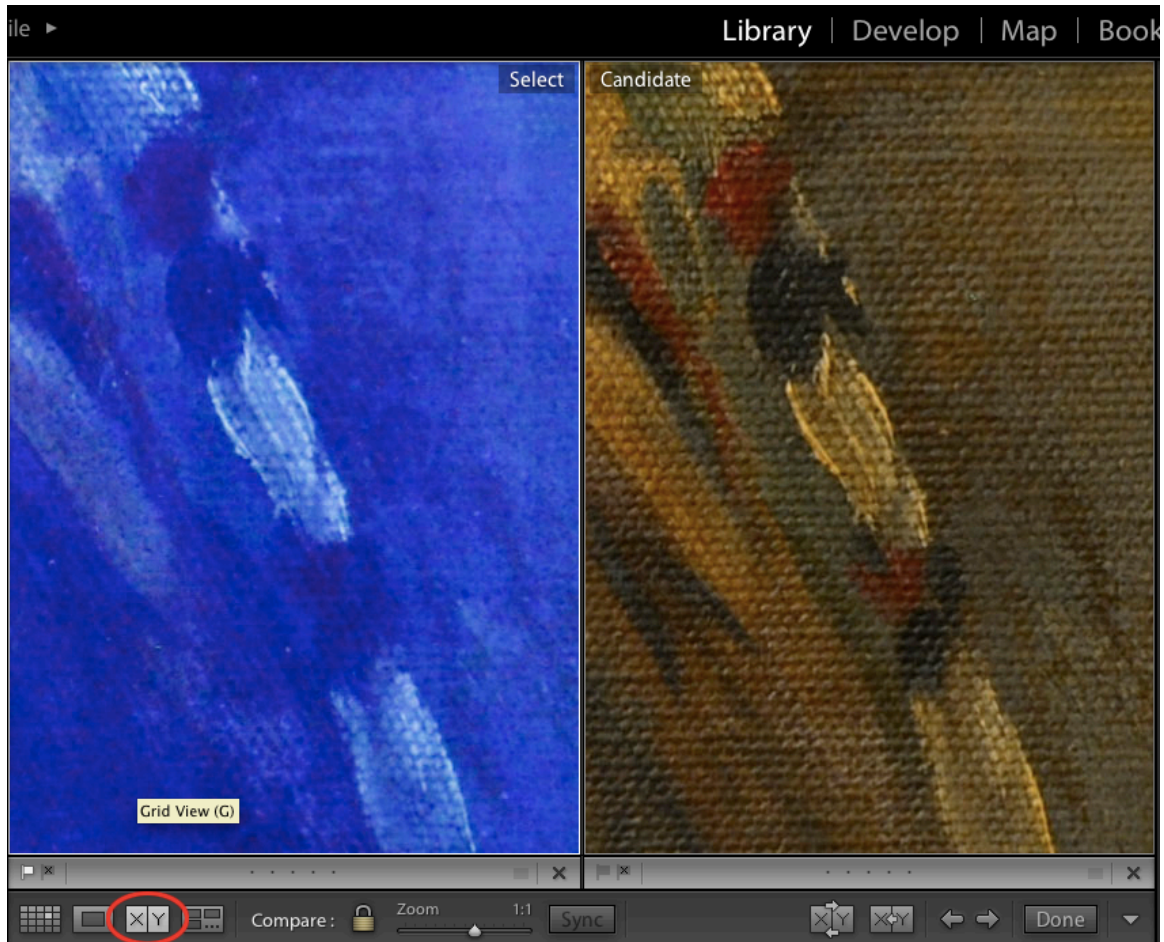
Compare View

Compare View in the Library module provides a split-screen view that allows you to compare two different images side by side. There are two features that make this uniquely useful for art examination.

The first is that the arrow keys allow you to change the photo shown in the right-hand part of the split screen, which is great if you have a picture shot many times under different lighting conditions or polarization angles.

The second is "linked focus": As you zoom in and move around the detailed view of one picture, the other follows suit, allowing you to effortlessly compare details of two pictures.

In the following example, I have a photo shot for ultraviolet fluorescence, and several shot with different polarization angles. The camera position did not change so the pictures are aligned. My first selection was the UV (labeled “Select”), and then I clicked the icon at the bottom, circled in red, for Compare View. I can compare the UV with several versions of visible light images, by using the arrow keys, and as I maneuver around the details, both images zoom and scroll in unison.



Circled in red is the button used to enter and exit this mode.

Note that the corresponding control in the Develop module does something somewhat different; be sure you are in the Library module.

Raw (DNG) vs. JPEG.

Use DNG as your preferred master file format. The AIC guide goes into some detail on this. But briefly, keeping just the JPEG is like keeping a print and throwing away the negative – the envelope with the name and date on it.

The raw formats created by the camera itself are proprietary to the camera manufacturer, and Lightroom can't write much metadata to them. Instead, Lightroom writes it to “sidecar files.” (see “Where Does the Metadata Live?”) DNG wraps up those proprietary formats with all of the metadata, losing nothing.

Eliminating Duplicates

The easiest way to find duplicates is by using a plug-in called [Duplicate Finder](#)⁸ from [lightroomplug-ins.com](#). Worth the \$13 in time you will have saved the first time you use it.

Be careful to collect any useful metadata from the duplicate before deleting it.

Multiple Users

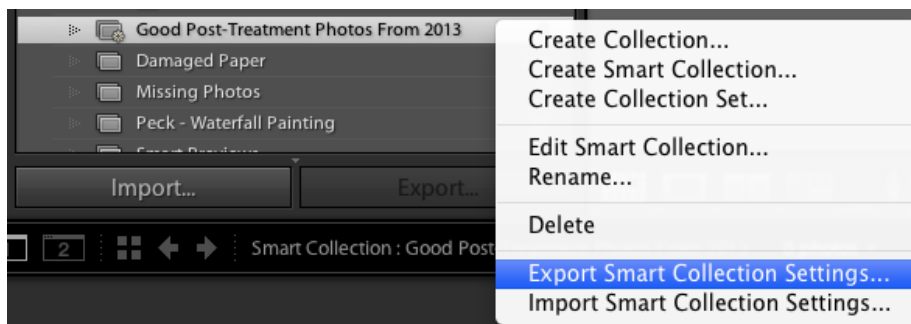
Lightroom catalogs cannot be used by multiple people simultaneously. Also, multiple catalogs cannot be synchronized; so updates made on one system will not be shared in anyone else's catalog. [Adobe has stated flat-out that you cannot store a catalog on a network file server](#)⁹. It's too risky. This all makes multiple people using the same catalog effectively impossible.

Even if the files themselves are stored on a file server that everyone can access using their individual copies of the catalog, Lightroom may still show the pictures as missing because the "file path" is a little different for each person. (This is a temporary problem, though; once the photos have been relinked, all should be well.)

Solving these problems is usually the domain of Digital Asset Management systems (DAMs), which are considerably more expensive and complex.

That said, there are several features of Lightroom that make working with other people a little easier.

- **Embedded metadata.** If one person adds keywords or other metadata to a picture file that's in your catalog, Lightroom will notice and will give you the option of updating its metadata. As long as two people don't make different changes to the same file at the same time, this can be helpful.
- **Presets can be exported and installed by others.** It is not especially difficult in Lightroom to make preset files of all kinds that can be shared among users for consistency's sake. Metadata presets are a great example of this. So are meticulously-constructed Smart Collections:



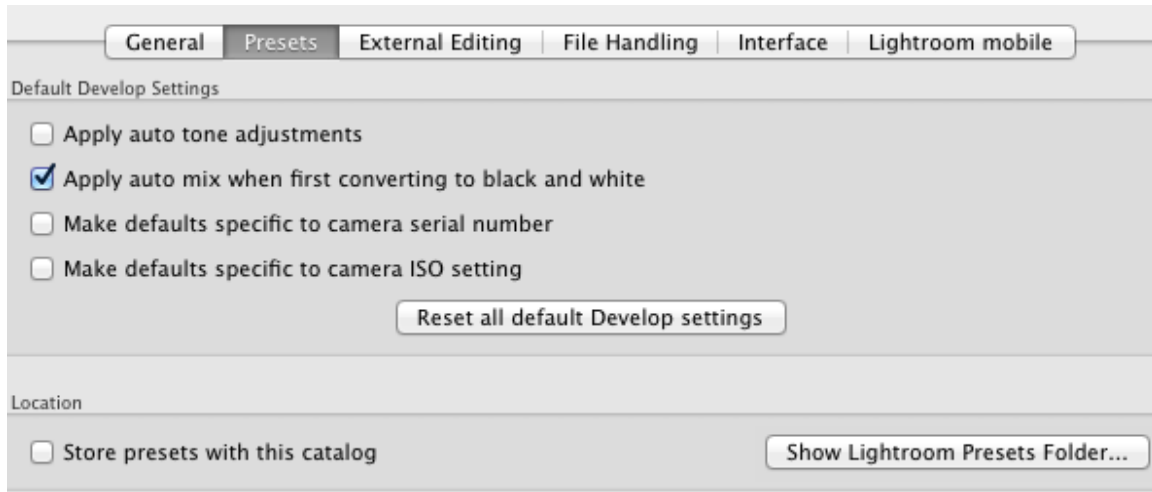
- **Keyword Sets can be exported and imported.** In this way, you can ensure that everyone is using the same vocabulary for keywords. Lightroom is not rigid in this regard, so it's still possible that people can work outside the

⁸ <http://www.lightroom-plugins.com/DupesIndex.php>

⁹ <http://helpx.adobe.com/lightroom/kb/catalog-faq-lightroom.html>

system and create inconsistencies in tagging strategies, spelling etc. But in general, this feature adds a modicum of consistency.

Note that many of these presets are not actually stored with the catalog by default, they're installed into a separate directory. Lightroom makes it easy to find the hidden directory. In the Presets tab of the Preferences dialog is a checkbox allowing you to store the presets with the catalog – useful before giving someone a copy of



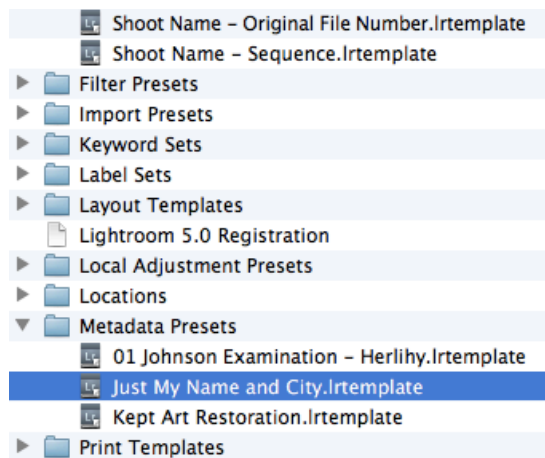
the catalog – and a button that will **Show Lightroom Presets Folder**.

This last is very useful because it will make it easy to find the files you need to share with a colleague, and also to find where you need to put presets sent to you by a colleague. This directory is relatively hard to locate any other way.

At the left is part of Lightroom's Presets folder, showing some of the custom metadata presets I have set up in my Lightroom.

Where Does the Metadata Live?

Everything you've told Lightroom about this picture, your edits and everything is the "metadata". But



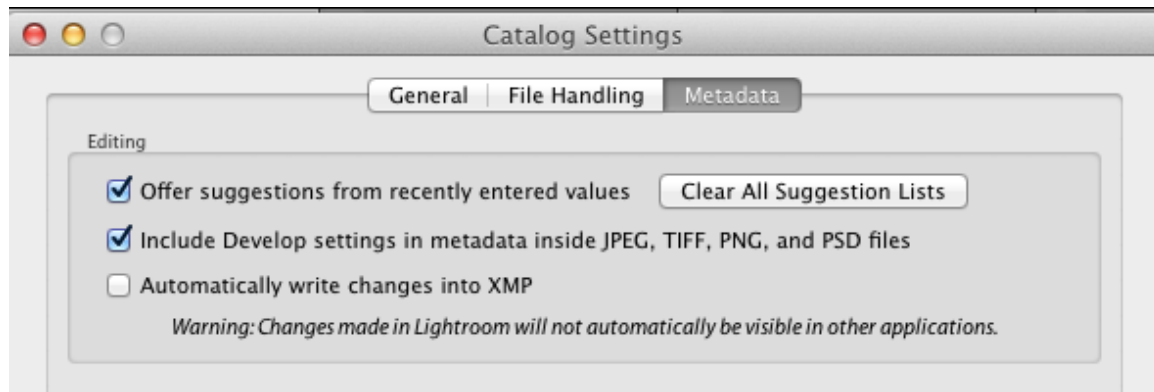
where is it stored? It starts in the Lightroom catalog. But that's risky; if you lose the catalog for some reason you lose a lot of work. Moreover, other people with whom you share the picture won't see any of that metadata.

Lightroom can also store metadata in a little file called a "sidecar" file, so named because it's meant to stay alongside the file in the same folder. The advantage to storing it in a sidecar file is that any

changes you make affect this little file instead of the larger photo file. Your backup software will only see the little file changed and back up the sidecar file – much faster than backing up changes to the whole photo.

The risk with sidecar files is that they can get “lost” – separated from the photo – losing all that hard work. This is why I don’t use them.

I set my **Catalog Settings** (accessible from the same menu as **Preferences**) to “**Automatically Write Changes to XMP**” in the **Metadata** tab.



Lightroom's Drawbacks

There are a few areas where Lightroom does not yet have features we need. This prevents Lightroom from being your sole tool to make images document themselves; you must use other tools for some processes.

1. **It does not support *custom* metadata in the XMP format that everything else uses.** While you can write very simple plug-ins that add custom metadata fields to Lightroom, these fields are not visible in Adobe Photoshop or Adobe Bridge, and they aren't visible to anyone else unless they have your custom plug-in installed. I've written such a plug-in based on the fine VRA custom [cultural heritage File Info panel](http://metadatadeluxe.pbworks.com/w/page/74156486/VRA%20XMP%20Info%20Panel)¹⁰, but data entered here is not reflected in Bridge or Photoshop etc. even if you have the VRA Custom File Info Panel installed. The converse is also true. VRA metadata entered in Bridge does not appear in my plug-in. You can download it if you want to use it anyway.
2. **You cannot create hierarchical keywords from nested folder titles,** which would be very helpful when migrating from a folder structure to a metadata structure. As an alternative, I've used the free command-line tool `exiftool`, with which a moderately nerdy person can write a script that does that using the `-tag<=%d` option.
3. Lightroom does not yet have a way to share and **synchronize a catalog across multiple computers**, which would be helpful for teams. For that you have to migrate to a Digital Asset Management System, which is usually expensive for software and/or training.

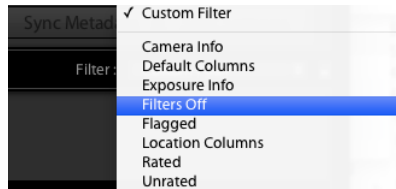
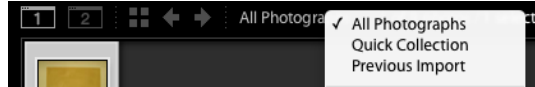
¹⁰ [http://metadatadeluxe.pbworks.com/w/page/74156486/VRA XMP Info Panel](http://metadatadeluxe.pbworks.com/w/page/74156486/VRA%20XMP%20Info%20Panel)

4. **Lightroom does not have a great way of finding duplicates.** You need a commercial plug-in like Duplicate Finder.
5. The aforementioned **limitations of the keyword synonyms feature.** Expanding feature would allow for a great deal of flexibility in tagging and retrieving images.

Frequently Occurring Problems

Not seeing my pictures: Frequently you will not see the set of pictures you expect to see. This can happen for either of two reasons:

1. The **Filmstrip** panel at the bottom is set to display the wrong collection. Change the popup to All Photographs or to an appropriate collection.



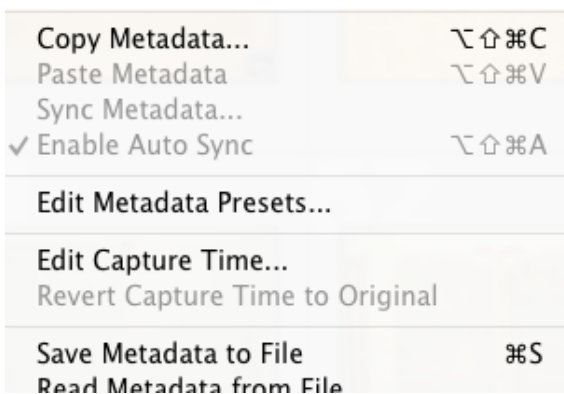
2. There is something filtering out many of the photos in the current, such as a previous search. Set the **Filters** popup at the right end of the **Filmstrip** panel to **Filters Off**. You can temporarily disable filters by

unchecking **Enable Filters** in the **Library** menu (Command/Control-L); this can be useful because your last filter is preserved when you turn them back on.

Once the filters are turned off or disabled and the Filmstrip is showing the correct set of photos, tapping the G key shows you all of your photos in the familiar Grid view.

Using Add mode to import pictures from removable media: When importing, it's easy to accidentally import photos in place, without copying them to your hard drive. Everything appears to be going nicely until later, when you've long since removed the SD card or whatever and it says Photo Missing.

Metadata not updating: If metadata is edited in an external application such as Bridge, or by someone else who has the same picture file in their catalog, Lightroom will not automatically display it. Instead, the photo's thumbnail will have a new icon

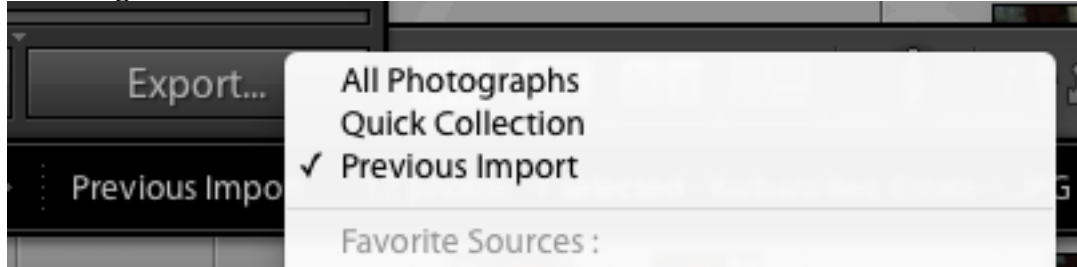


(Lines with an up arrow) that indicates that the file on disk has metadata that conflicts with what Lightroom is storing in its catalog. Clicking that will allow you to update from the metadata in the file on the disk. You can also select **Metadata > Read Metadata from File**.

Lightroom Metadata not showing in other apps: If you've added keywords and other metadata in Lightroom, but apps like Photoshop and Bridge don't

show it, chances are that you haven't saved the metadata changes. **Metadata > Save Metadata to File** (Command/Control S) will commit those metadata changes into the selected files:

Searching on Metadata doesn't find any results: Most searches only find matching items in whatever is in the Filmstrip down below. When you search on keywords or other metadata that you're sure is in there somewhere but it's not finding enough matches, it's usually because the **Filmstrip** is set to something other than **All Photographs**. Set it to **All Photographs** in the popup menu and try your search again.



Changes to one of the selected pictures aren't reflected in other selected pictures. By default, editing metadata in Lightroom is for the "selectedest" picture only. You can synchronize metadata to the other selected photos using **Metadata > Sync Metadata** but it may be better to simply select **Metadata > Enable Auto Sync**. When this is enabled, metadata changes you make to one picture will be applied to all selected pictures. Be careful with this setting, though. There are times when this is not what you want to happen.

Final Word

Please be sure to check the link specified at the beginning of this document for further and more updated information.