

Image Clean-up

This document outlines the processes that are used to “clean” images going into the LCP image archive. The goals of image cleaning are to create a professional looking archive and, most importantly, increase the usefulness of the images. Changes made to images enhance the viewers’ ability to interpret the details of the images.

The process involves the following major steps (that will be outlined in more detail below): 1) Convert to JPG, 2) Rotate, 3) Crop, 4) De-Screen, and 5) Adjust Levels. The steps are to be performed in this order. The ‘cleaning’ is performed in Adobe Photoshop, thus begin the image cleanup by opening the image in Photoshop.

Some images will need to go through all steps while others will need none. In the interests of thoroughness and efficiency it is important to follow this outline of steps, checking and adjusting each image then moving on. Without a systematic approach it is easy to miss steps, particularly if cleaning large numbers of images.

Convert to JPG:

Many images are scanned as TIFF documents however, images in the active LCP archive must be in JPG format. This can be achieved in one of two ways.

- **One image at a time:** Once an image is in Photoshop, click on “File” → “Save As...”. Change the format to JPG. This will save a copy of the image as a .jpg file.
- **Convert files with the image processor:** Also in Photoshop click on “File” → “Scripts” → Image Processor. Select the folder containing the TIFF files that you want converted to JPG. Select a destination folder for the newly saved files. In File Type check the box next to “Save as JPG”. Set quality (recommend 12). Click “Run”. This will convert the entire folder of TIFF files to JPG.

Rotate:

Often during scanning perfect orientation of the image on the scan bed is extremely difficult resulting in images that are slightly askew. Images with poor orientation can arise from problems during scanning or just from the original image itself. It is helpful to focus on particular vertical or horizontal lines, or surfaces, to judge whether an image needs to be rotated. Warning – in some cases the lens that was used to take the



original image warps the view such that objects to the left appear to lean left while to the right objects appear to lean right. There is nothing that can or should be done in this case.

If an image needs to be rotated within Photoshop click on “Image” → “Rotate” → “Arbitrary”. You are then given options of how much rotation and in which direction. Repeat until image is properly oriented. Usually a couple tenths of a degrees is enough. Large rotations will result in large portions of an image being cut off during cropping. Better to leave an image slightly askew and preserve the information than to have it perfectly orientated but missing large portions.

Crop:

Scanned images may also need to be cropped as the edges of the image are ragged, rotating has left large open areas, or the image was not cropped properly during scanning. To crop an image while in Photoshop, click on the crop icon in the toolbar. The mouse cursor will appear as the crop tool. Clicking and holding the mouse button while dragging the cursor will create a rectangular area that is highlighted. Everything outside this area will be removed from the image. Most efficient way to crop is usually to, starting in one corner of the image, click and drag the mouse icon to the far corner. As you approach the far corner hold down the “control” key. This will give you more control over the crop tool. Release the mouse button when you are as close to the edge of the image as possible. In most cases the crop rectangle will need to be adjusted (on the sides where the crop box was started) by clicking and dragging the corners or sides of the box. Adjusting the corners moves two sides at once and is thus most efficient. Keep in mind – remove as little of the image as possible. In some cases the cropping will have to leave some “ugly” edges in order to preserve details of the photo. Often this is the case when text is handwritten along the edge of an image. Double clicking the mouse after the desired area is selected will crop the image.

De-Screen:

Some images that are scanned from printed texts or postcards have a regular pattern known as Moire, superimposed over the image. Moire is an interface pattern resulting from the half-toning process used to print images and the pixel method of collecting image data during scanning. This pattern will change or even disappear as the size of the image changes. For example, in LCP it is common for the pattern to appear on a thumbnail image but not on the full size image.

There are two “filters” in Photoshop that can help get rid of this pattern – the “Gaussian Blur” and the “Median Noise”. In many, but not all, cases the Gaussian blur is sufficient. The Median Noise rarely hurts so it is probably most efficient to apply both the Gaussian Blur and the Median Noise filter. To apply these filters click ‘Filter’ → “Blur” → “Gaussian Blur” or ‘Filter’ → “Noise” → “Median”. In both cases a control panel will come up allowing you to adjust the “Radius”. The larger the number the more blurring will occur, and the more aggressively the moiré pattern will be removed. In most cases a radius of 1 or 2 pixels is good. Set the radius at one, only occasionally will it need to be increased.

The higher the resolution of the image the easier it will be to filter. With lower resolution images there is a trade-off between de-screening and blurring the image. Aggressive descreening will result in blurred images so use the smallest radius possible to get an acceptable image.

Example:

Before De-screening



After De-Screening



Adjust Levels:

The final step is to adjust the brightness and contrast of the image, and in the case of color images to adjust the color balance. In some cases the scanned images have a cloudiness to them that can be removed by adjusting the levels. In other cases the images are too dark or lack contrast, making it hard to pick out details. If an image looks okay, avoid any adjustments since the scanners do a good job of recording image contrast and brightness.

The easiest way to adjust levels and a good starting point is using the Auto-Adjust feature within Photoshop. Click “Image” → “Adjust” → “Auto Levels”. In many cases this will be all that is necessary. In some cases the Auto Levels feature will not be ideal. This is often the case when there is a border around an image. Borders are often black, which the auto levels picks up. Brightness and Contrast can be manually

adjusted using “Image” → “Adjust” → “Brightness/Contrast”. The brightness and contrast can be increased or decreased until the details of the image are most visible.

Example:

Before adjusting using “Auto Levels”



After adjusting using “Auto Levels”



Example:

Before any image “clean-up”



After all “clean-up” steps



After image clean up, save the image using the same file name. It is VERY IMPORTANT to note that all clean up is done only on jpeg images. Never alter the original TIFF scans, since these scans function as archive copies.