



# Intro Photoshop and Digital Imaging 2012

Presented by Michael Bevans

# Course Description

This workshop will introduce participants to an exemplary imaging workflow and the principles behind image capture and image editing.

Common image editing tools and techniques will be demonstrated using Adobe's Photoshop and Lightroom.

Image resolution and file formats will be discussed, including JPEG, TIFF, and RAW with practical examples of each and how they are used in digital archives.

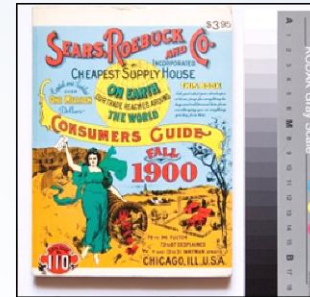
Emphasis will be placed on image quality control routines to ensure productivity and repeatability.

- **Gain understanding of an exemplary imaging workflow**
- **Develop familiarity with image resolution and its implications for reproduction**
- **Identify the differences between JPEG, TIFF, and RAW file formats**
- **Develop a familiarity with image editing tools**

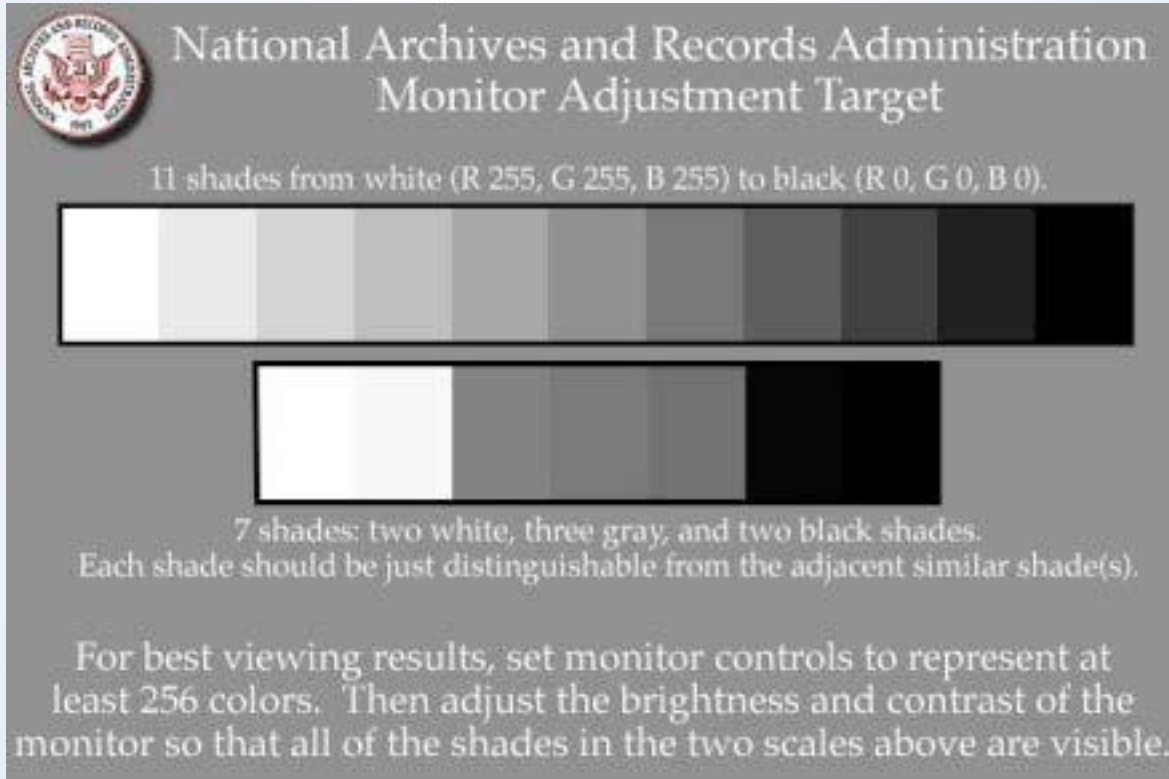
# Monitor Calibration

Set the brightness, contrast, and white point to known values.

- NARA recommends:
  - Gamma 2.2
  - 5000K
  - 85cd/m<sup>2</sup>
- Use calibration device
  - Datacolor Spyder
  - Pantone Huey
  - X-Rite i1



# Calibrate By Eye



The image shows a monitor adjustment target from the National Archives and Records Administration. It features a circular logo on the left with an eagle and the text 'NATIONAL ARCHIVES AND RECORDS ADMINISTRATION' and '1947'. To the right of the logo, the title 'National Archives and Records Administration Monitor Adjustment Target' is displayed. Below the title, there are two rows of grayscale color bars. The top row contains 11 rectangular shades ranging from white to black. The bottom row contains 7 rectangular shades, including two white, three gray, and two black shades. Text below the bars provides instructions on how to use the target for monitor calibration.

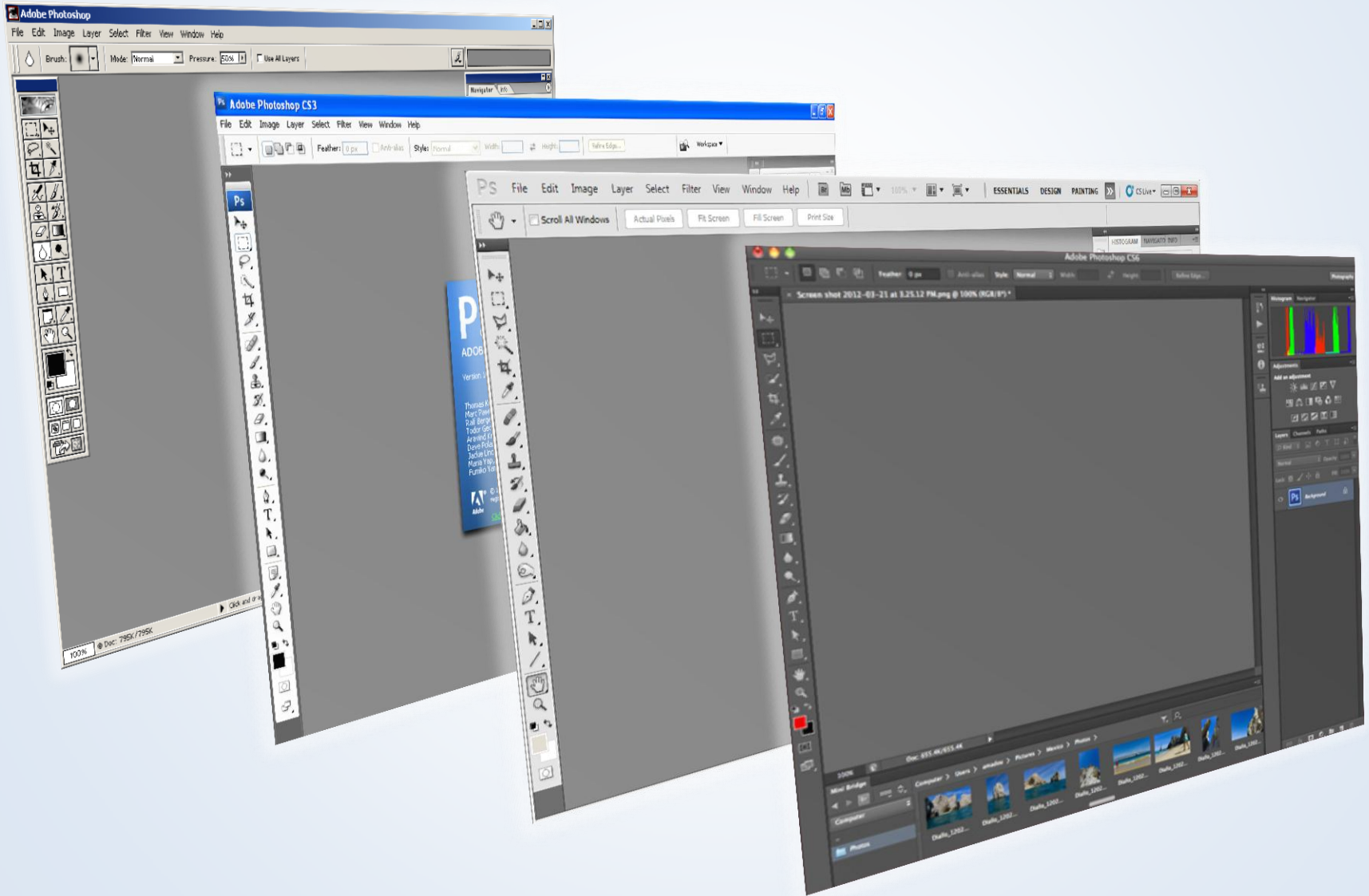
National Archives and Records Administration  
Monitor Adjustment Target

11 shades from white (R 255, G 255, B 255) to black (R 0, G 0, B 0).

7 shades: two white, three gray, and two black shades.  
Each shade should be just distinguishable from the adjacent similar shade(s).

For best viewing results, set monitor controls to represent at least 256 colors. Then adjust the brightness and contrast of the monitor so that all of the shades in the two scales above are visible.

# Multiple Versions



# Image Optimization

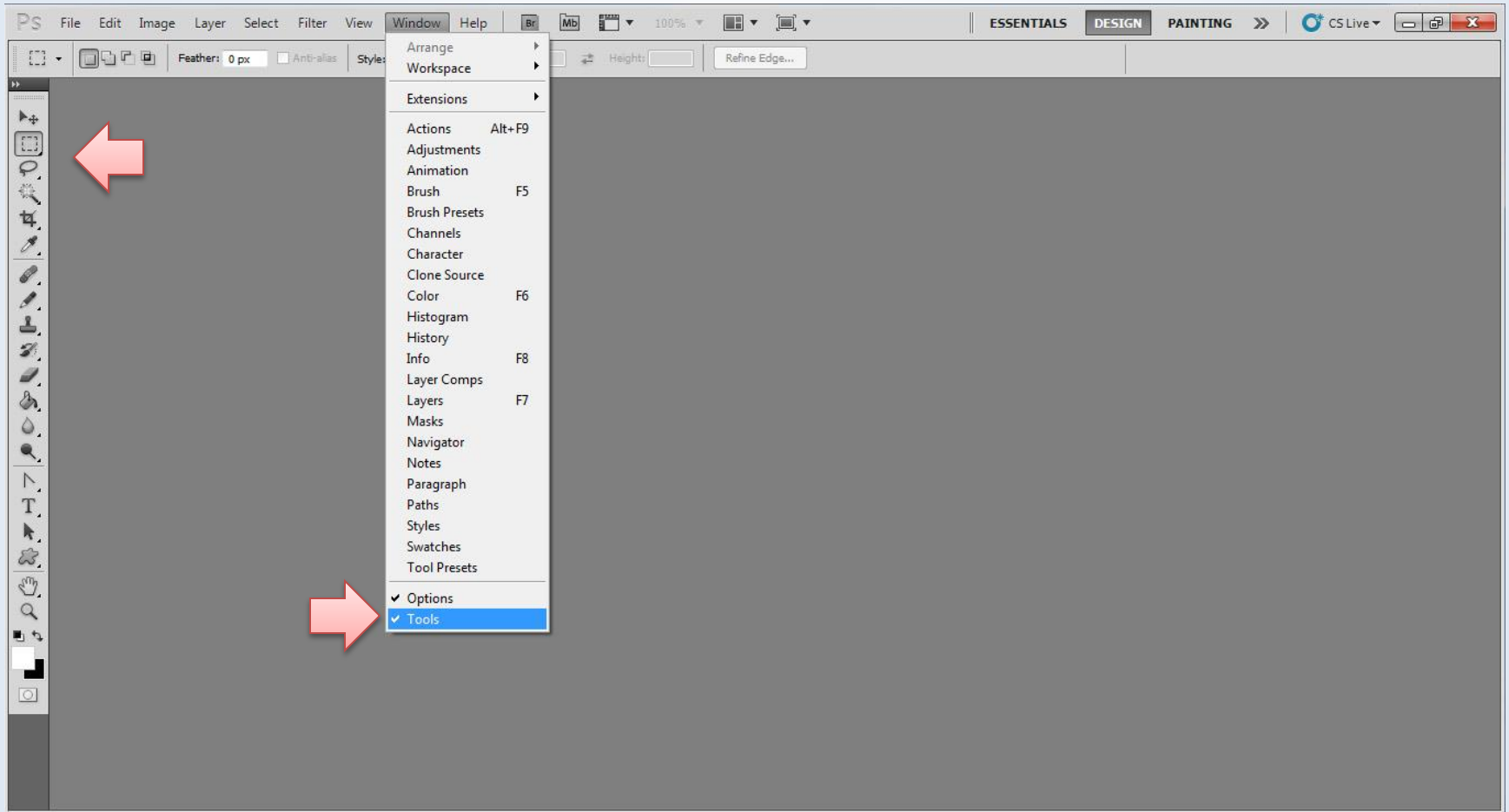
- Confirm Focus
- Enhance Exposure
- White/Color Balance
- Crop/Rotate/Straighten
- Sharpen

Save derivative files

- Web
- Presentations
- Print

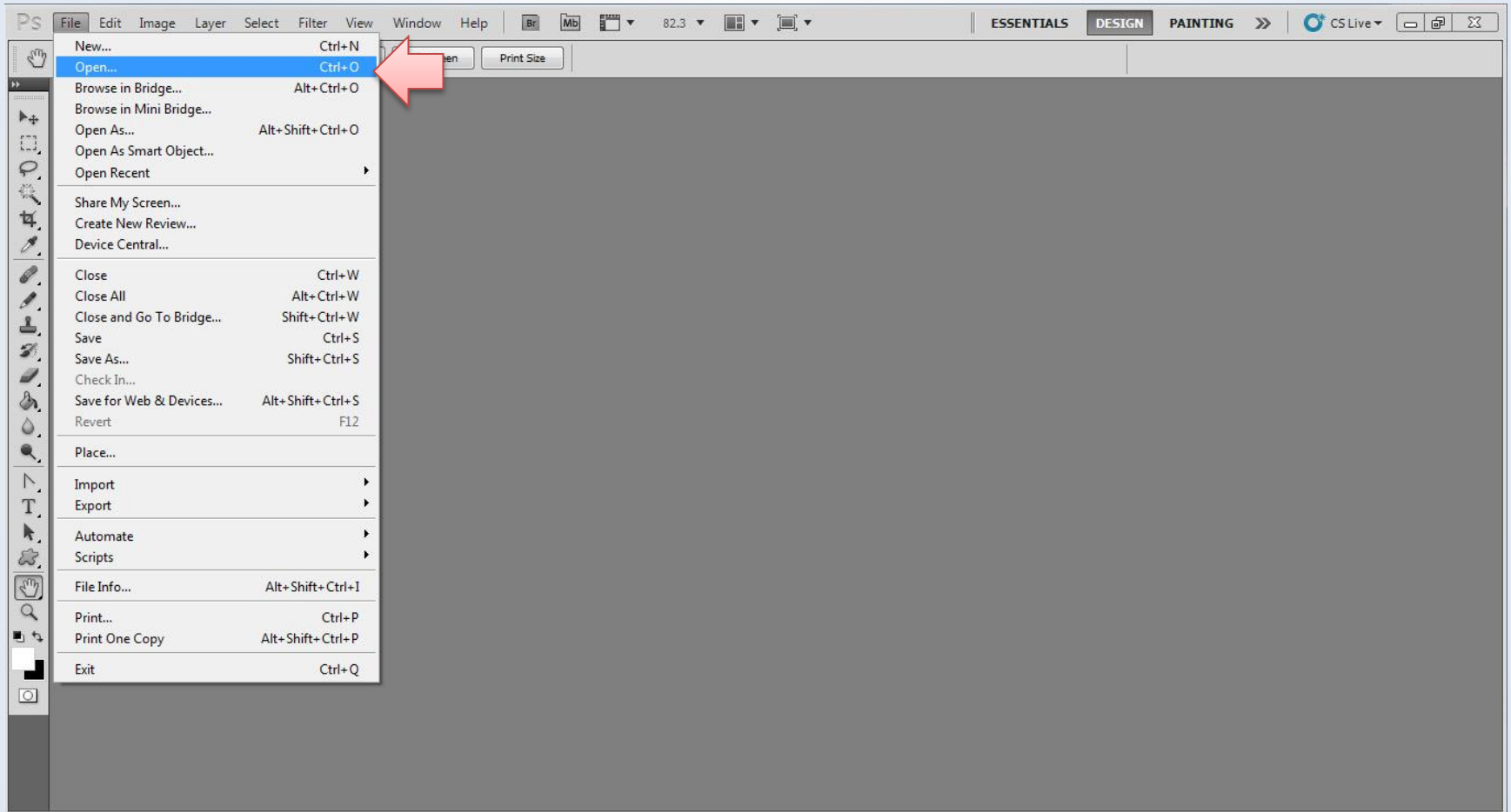


# Open Tools



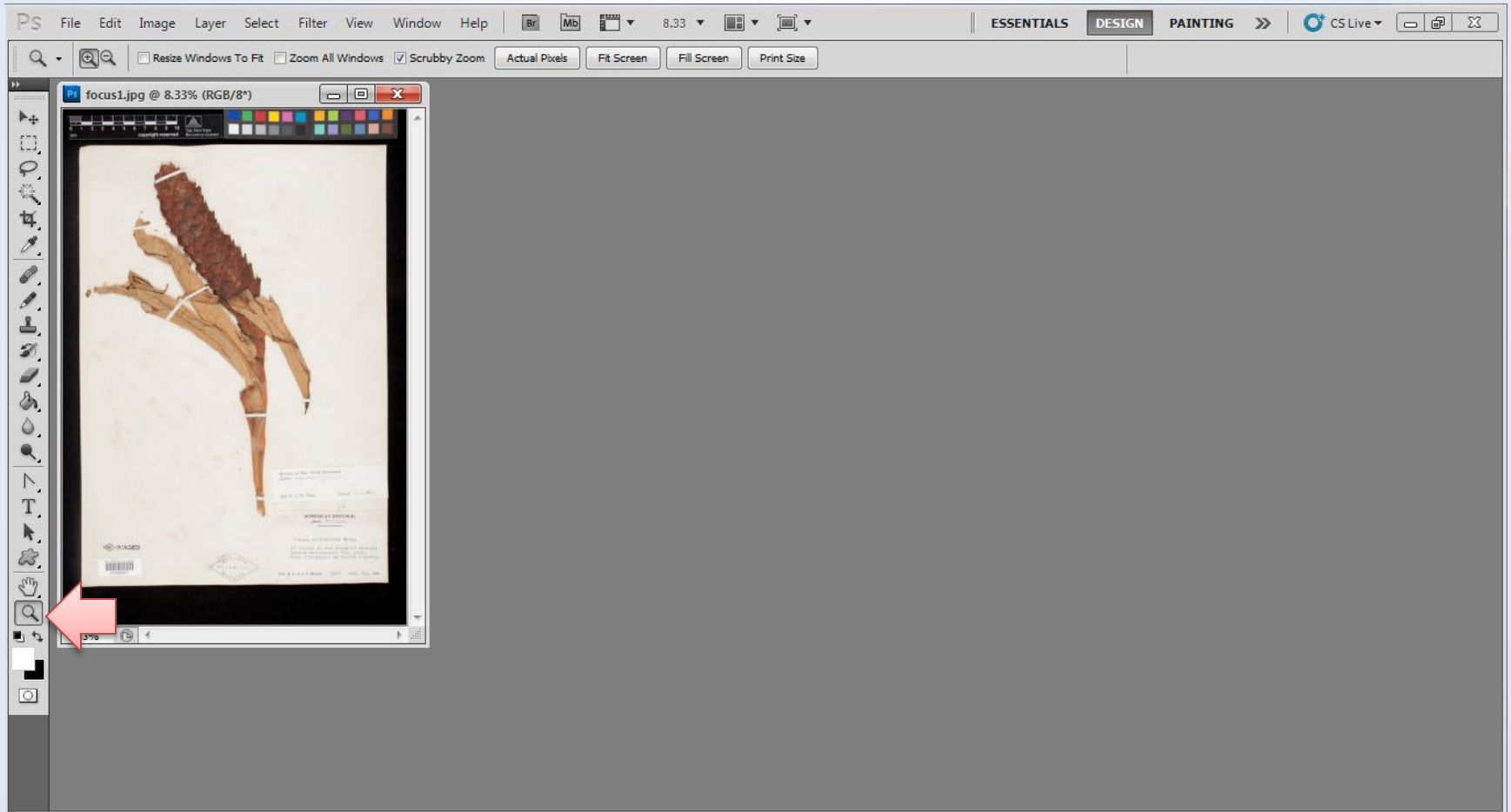


# Open File





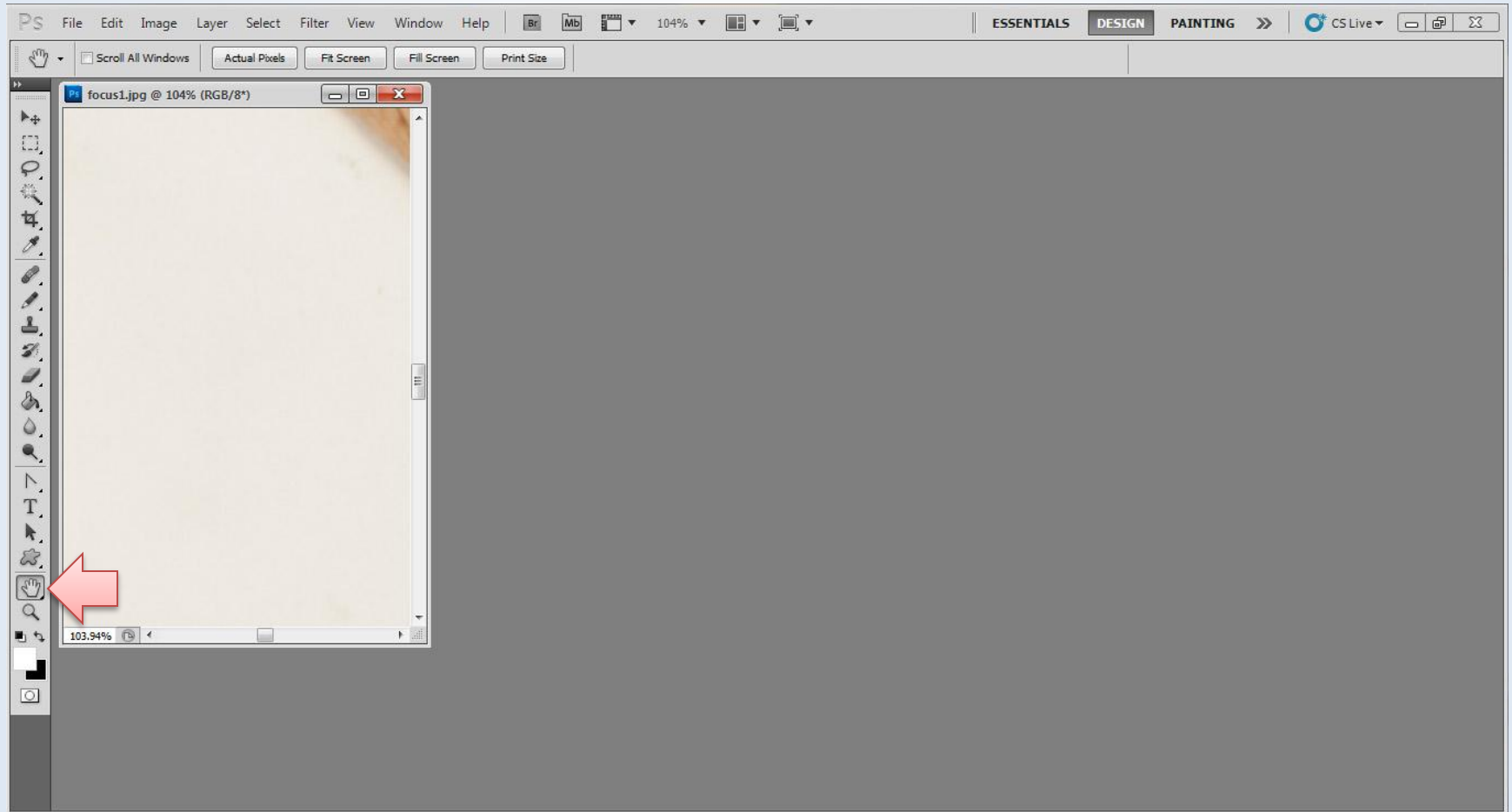
# Select Magnifier



# Magnifier

- The letter “M” on the keyboard selects the magnifier
- Click on image to increase magnification
- Alt-click to decrease magnification
  - Double-click on the magnifier to view at 100% magnification
    - Confirm focus at 100% magnification only
    - % magnification shown in title bar
  - “Ctrl+”/ “Ctrl-” zooms in and out

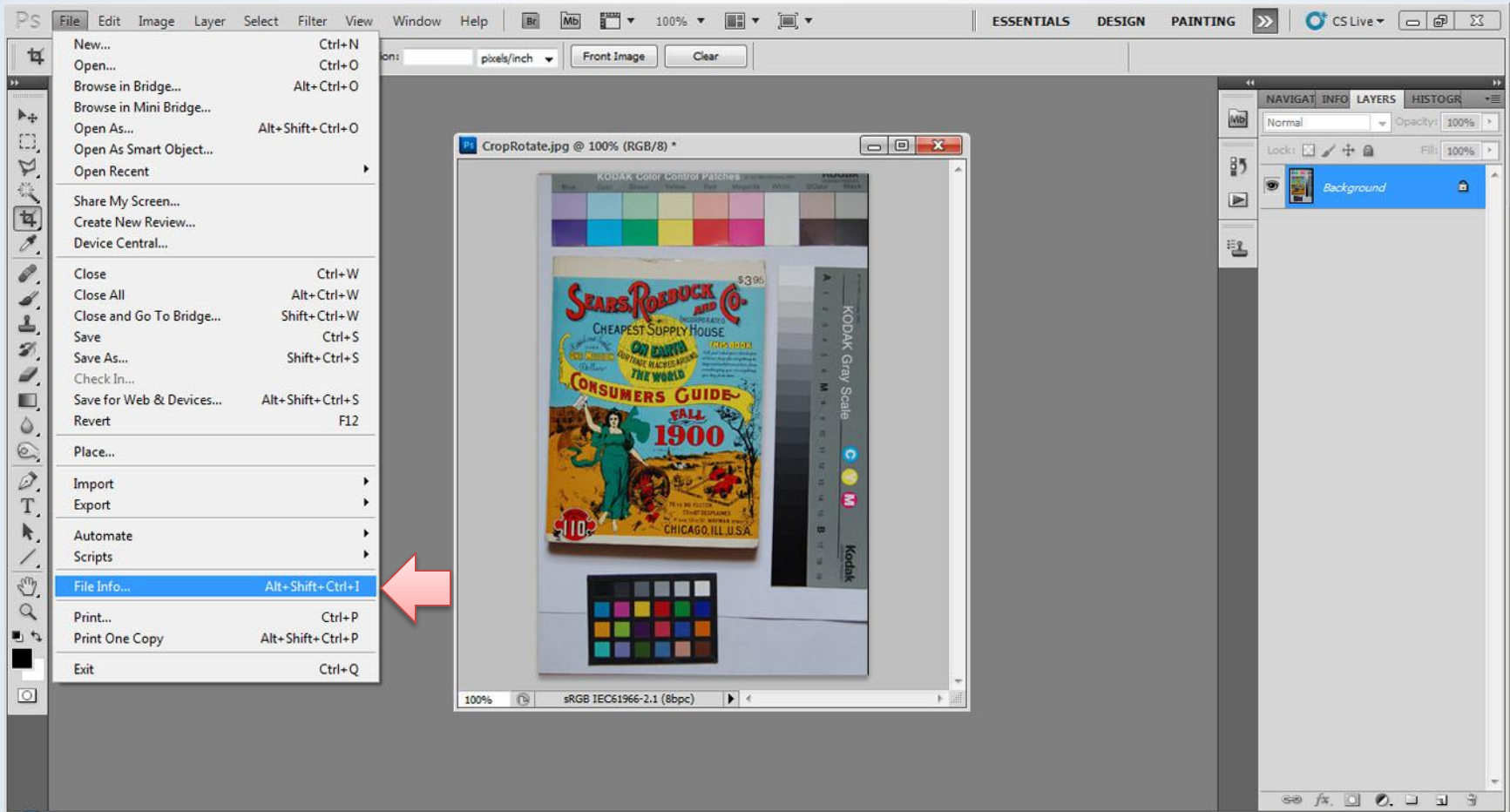
# Scroll/Hand Tool



# Hand Tool

- The letter “H” on the keyboard selects the hand tool
- Click and drag to navigate image
- Double click hand tool to fit screen

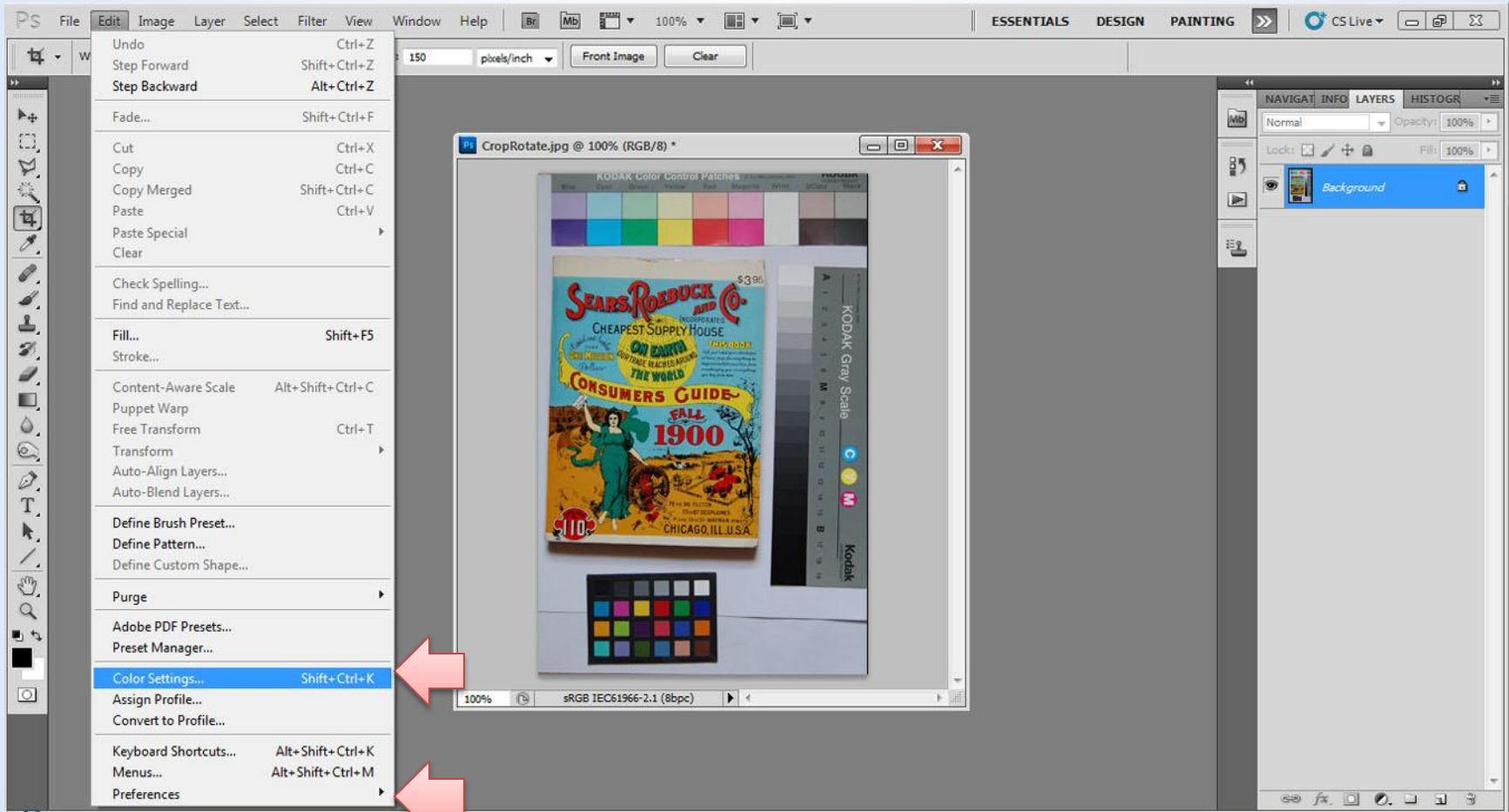
# File Menu



# File Info/Metadata

- Description
  - Title
  - Author
  - Keywords
  - Description (Caption)
  - Copyright
- IPTC
  - International Press Telecommunications Council
    - [http://www.iptc.org/site/Photo\\_Metadata/Overview/](http://www.iptc.org/site/Photo_Metadata/Overview/)
- Advanced
  - EXIF
    - Camera information

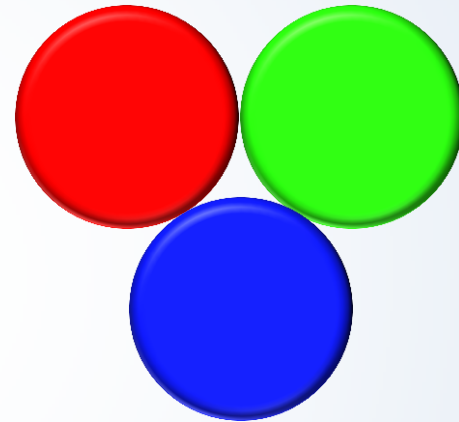
# Edit Menu





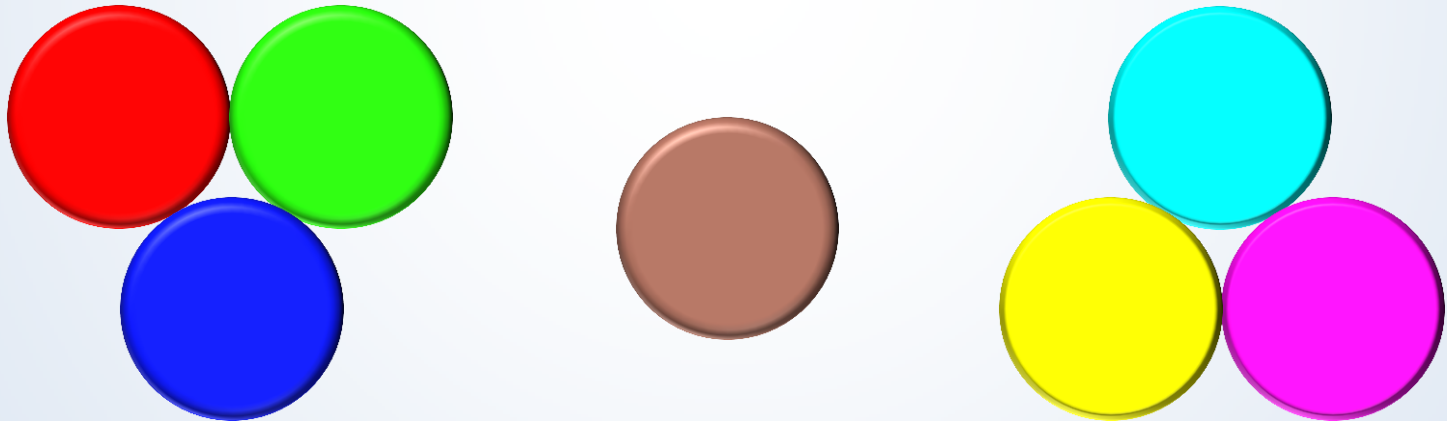
# Color Space

- Color space
  - Gives context to color
    - White point
    - Primaries
      - Gamut
    - Gamma
  - Display setting
    - Assign Profile
      - Maintains values/changes appearance
    - Convert Profile
      - Changes values/maintains appearance



# ICC Profiles

- International Color Consortium
- Standard reference for transcribing colors between different devices



*For the most repeatable results on the most devices, save derivatives as sRGB*

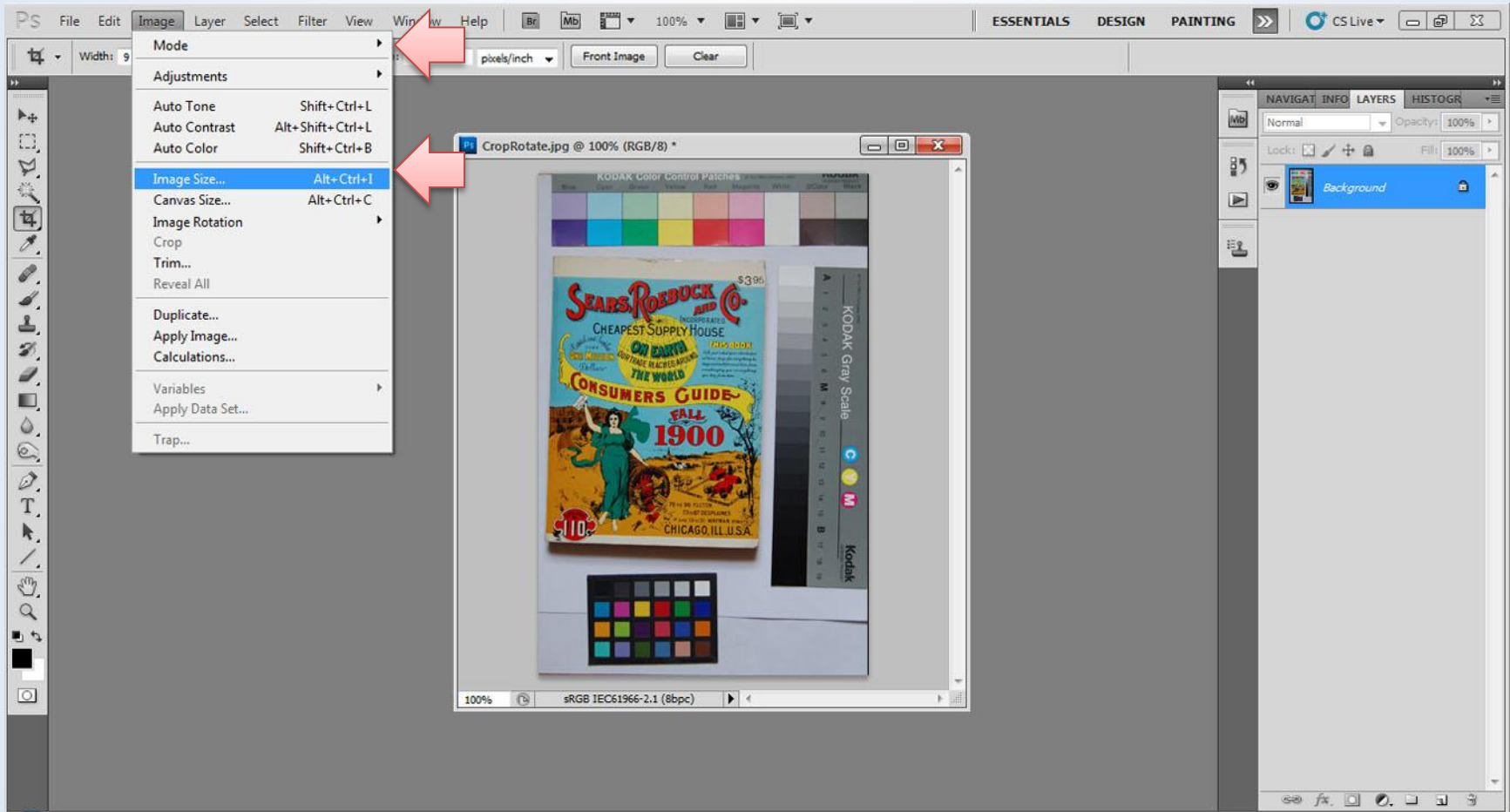
# Color Setting Suggestions

- Working Spaces
  - North American General Purpose 2
    - Suitable for most applications
      - Web
      - Print
- Color Management Settings
  - Preserve embedded profiles
  - Ask when opening

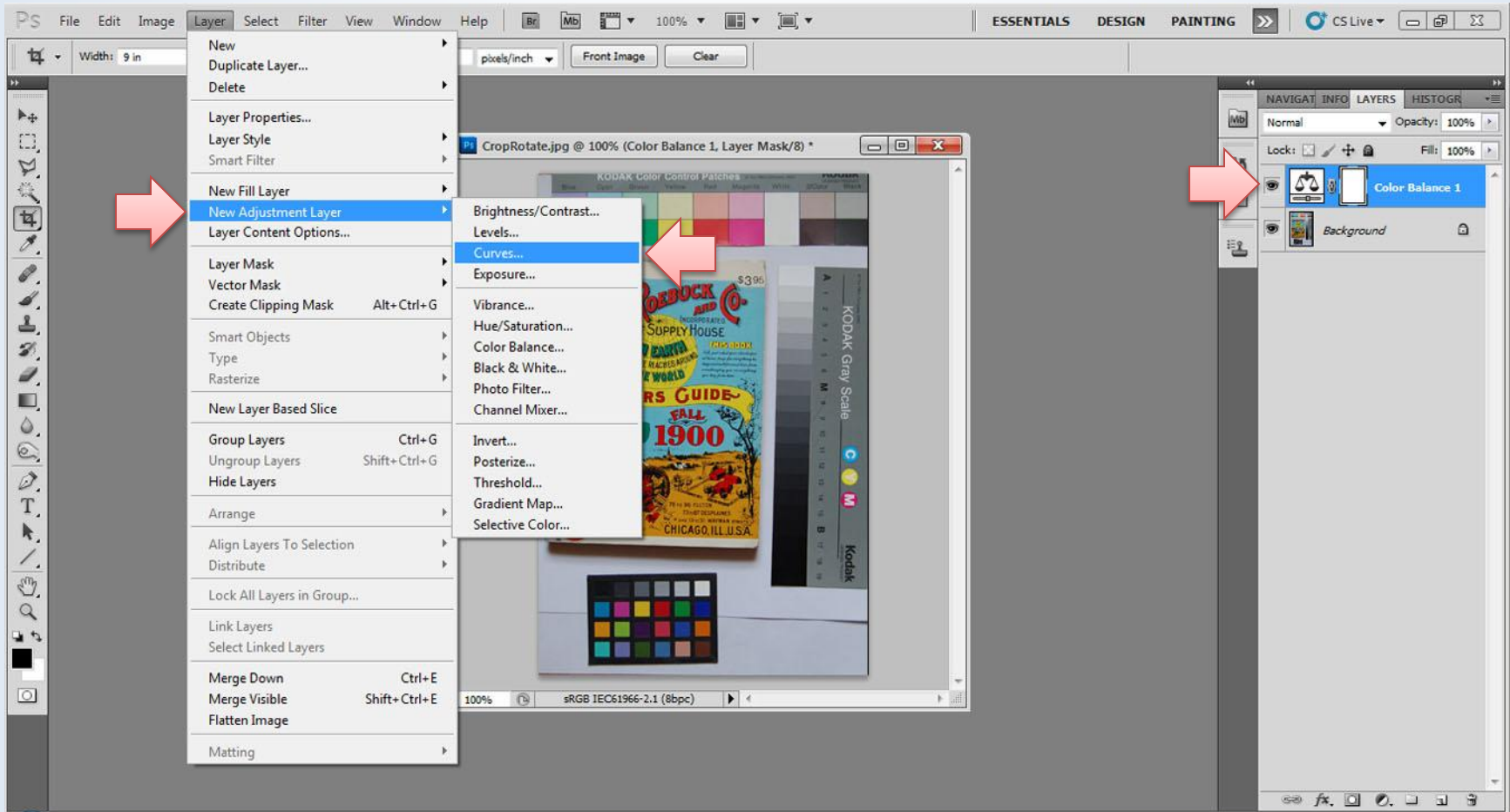
# Preferences

- Performance
  - History states
- Units and rulers
- Guides, grids, and slices

# Image Menu



# Layer Menu

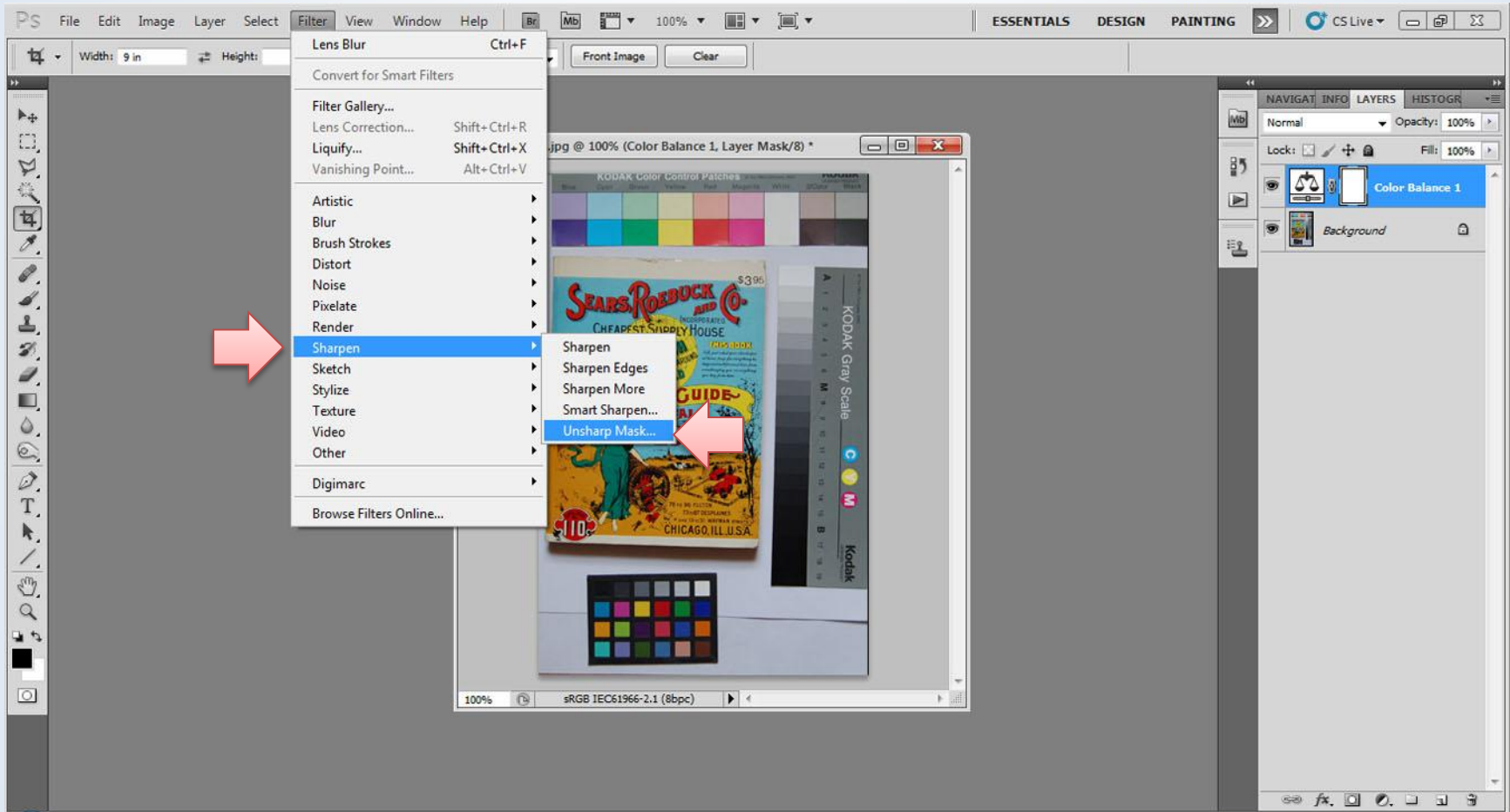


# Layers

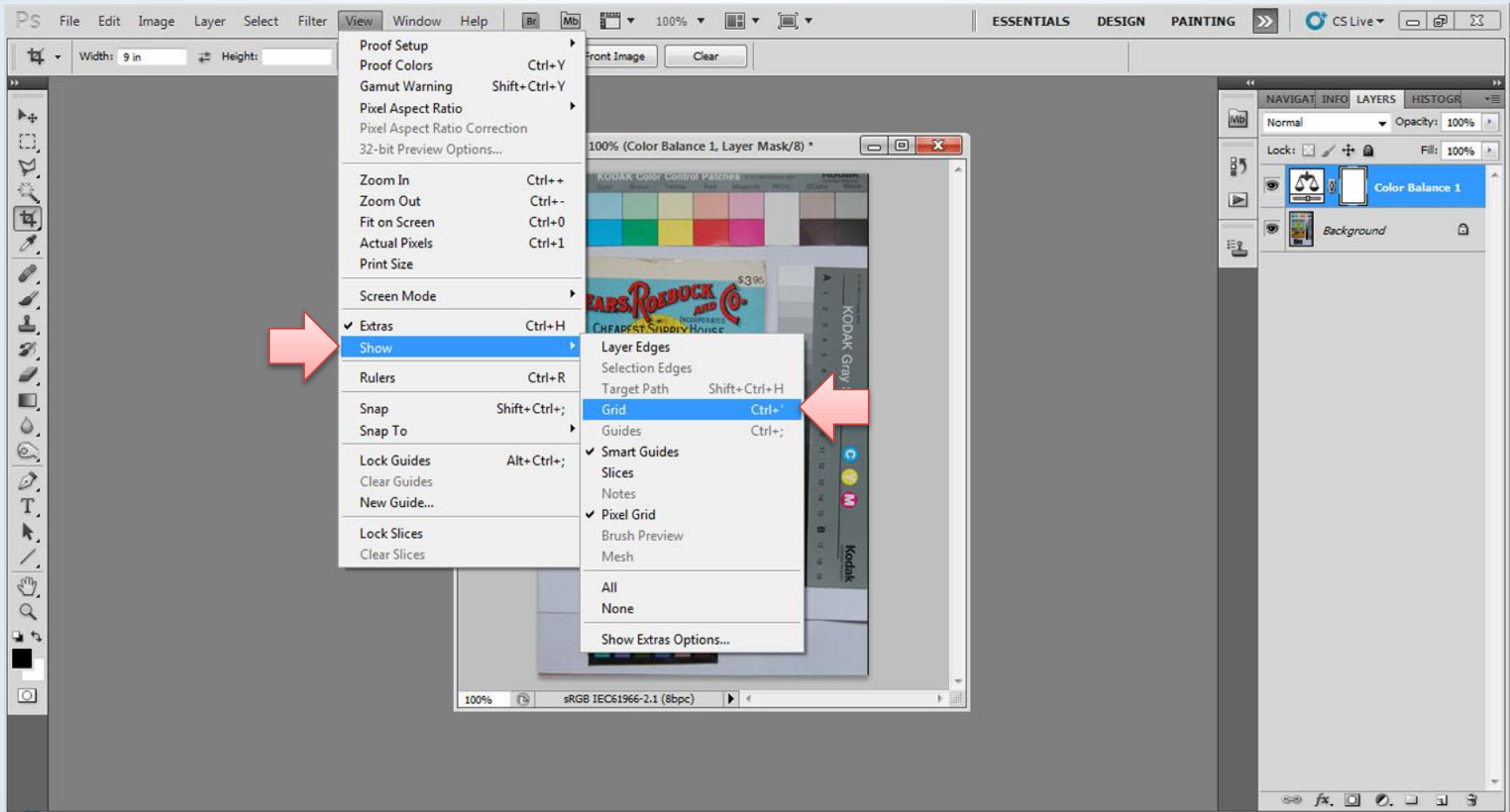
- Layers are “non-destructive” image edits
- Must be saved in a format that supports Layers
  - TIFF
  - PSD



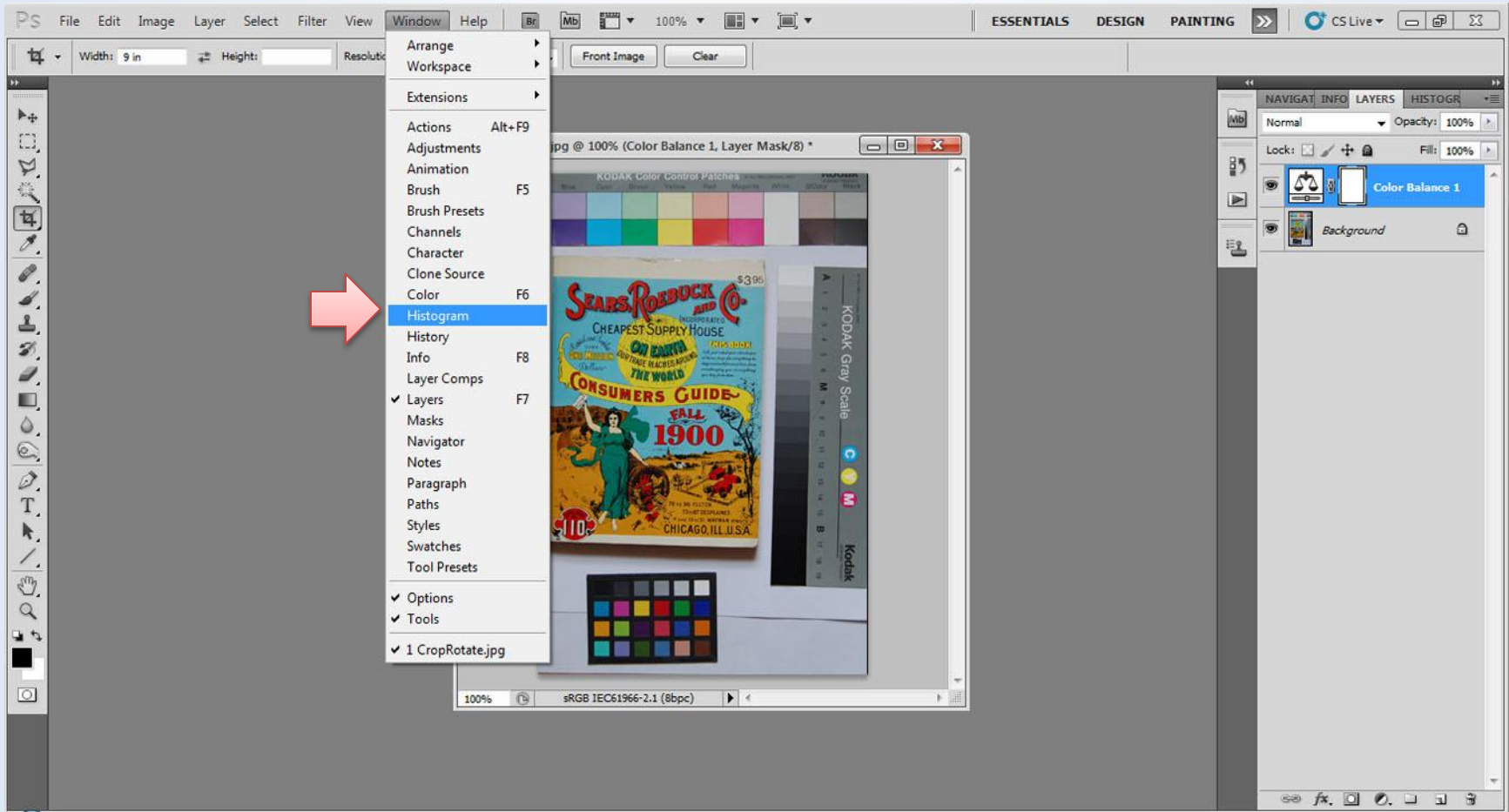
# Filter Menu



# View Menu



# Window Menu



# Window Menu

- Action
- Histogram
- History
- Layers
- Options
- Tools

*Use the “Tab” key to hide/reveal windows  
Use the “F” key to toggle to full screen*

# Exposure

## Windows

- Info
- Histogram

## Tools

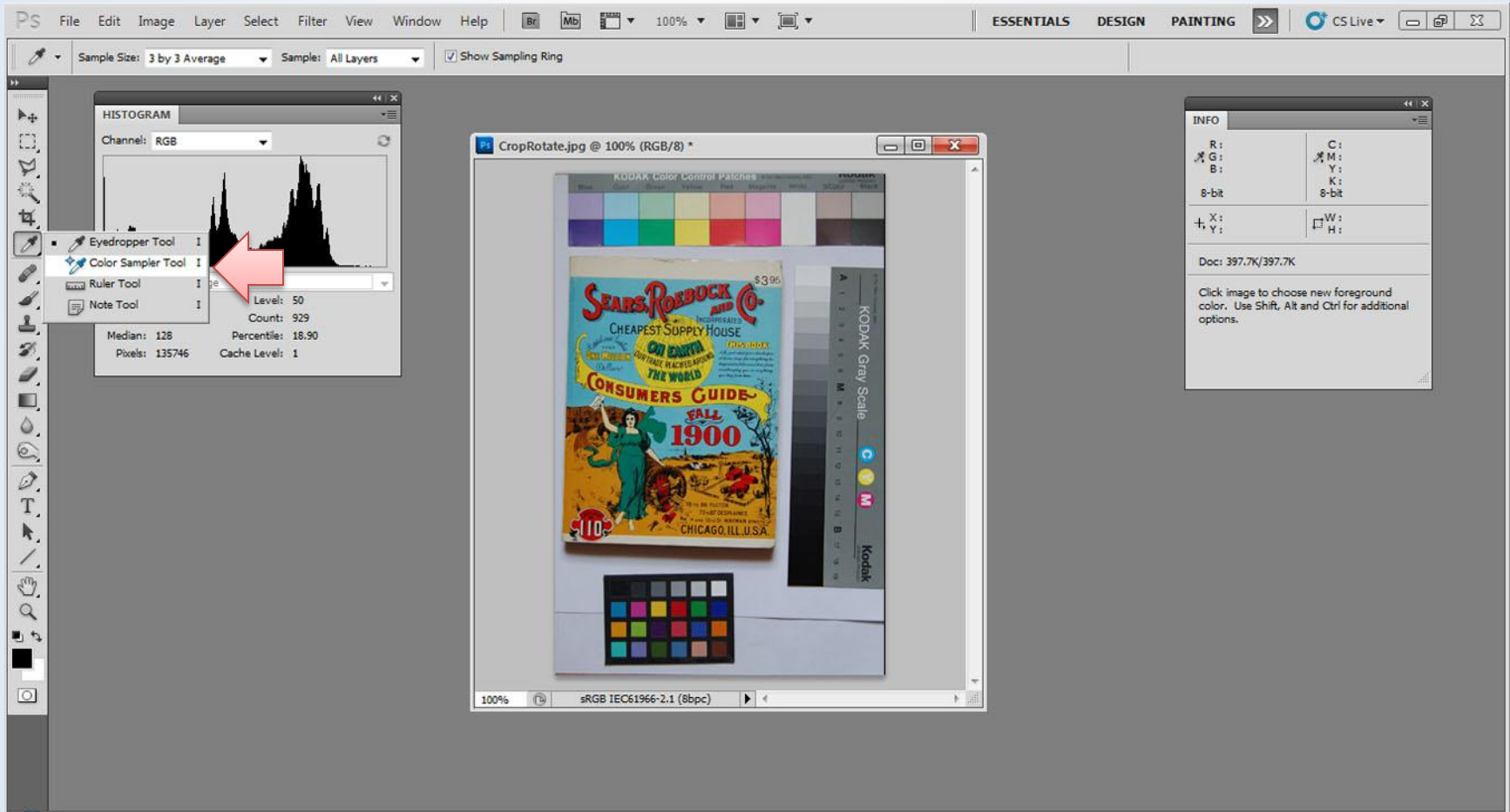
- Eyedropper

## Adjustments

- Levels
- Curves
- Exposure
- Brightness



# Eyedropper Tool





# Levels Adjustment

The screenshot displays the Adobe Photoshop interface with the Levels adjustment dialog box open. The background image is a vintage advertisement for Sears, Roebuck and Co. featuring a woman in a green dress and a horse-drawn carriage. The Levels dialog box is positioned in the foreground, showing the histogram and adjustment sliders.

**HISTOGRAM**  
Channel: RGB  
Source: Entire Image  
Mean: 155.63    Levels:  
Std Dev: 73.25    Count:  
Median: 166    Percentile:  
Pixels: 135746    Cache Level: 1

**Levels**  
Preset: Custom  
Channel: RGB  
Input Levels: 0, 1.14, 209  
Output Levels: 0, 255

**INFO**  
R:    C:  
G:    M:  
B:    Y:  
8-bit    K:  
8-bit  
X:    W:  
Y:    H:  
#1R: 192/ 236    #2R: 87/ 118  
G: 195/ 240    G: 94/ 126  
B: 200/ 245    B: 100/ 134  
#3R: 188/ 232    #4R: 122/ 159  
G: 193/ 237    G: 130/ 168  
B: 196/ 241    B: 140/ 179



# Color Balance

## Window

- Info

## Tools

- Eyedropper

## Adjustments

- Balance
- Curves
- Adjustment layers



# Color Balance

The screenshot displays the Adobe Photoshop interface with the following elements:

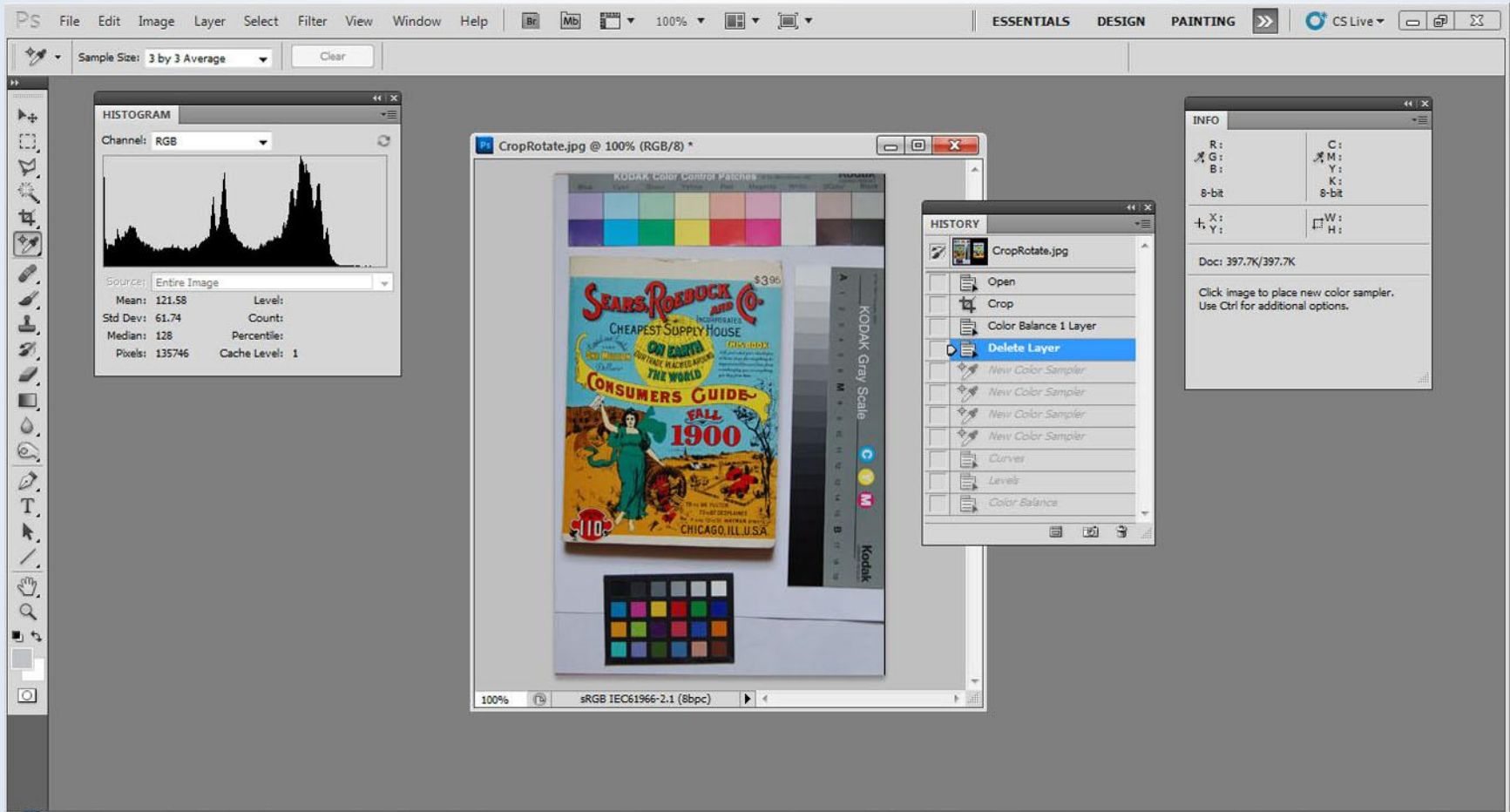
- Color Balance Dialog:**
  - Color Levels:  0
  - Cyan-Red slider: Cyan is increased, Red is decreased.
  - Magenta-Green slider: Magenta is increased, Green is decreased.
  - Yellow-Blue slider: Yellow is increased, Blue is decreased.
  - Tone Balance:  Shadows,  Midtones,  Highlights
  - Preserve Luminosity
  - Buttons: OK, Cancel, Preview (checked)
- HISTOGRAM Panel:**
  - Channel: RGB
  - Source: Entire Image
  - Mean: 158.35, Levels: [blank]
  - Std Dev: 75.25, Count: [blank]
  - Median: 169, Percentile: [blank]
  - Pixels: 135746, Cache Level: 1
- INFO Panel:**

R: [blank]	C: [blank]
G: [blank]	M: [blank]
B: [blank]	Y: [blank]
8-bit	K: [blank]
8-bit	8-bit
X: [blank]	W: [blank]
Y: [blank]	H: [blank]
#1R: 236/ 246	#2R: 118/ 125
G: 240/ 244	G: 126/ 131
B: 245/ 244	B: 134/ 128
#3R: 232/ 242	#4R: 159/ 167
G: 237/ 242	G: 168/ 174
B: 241/ 240	B: 179/ 174

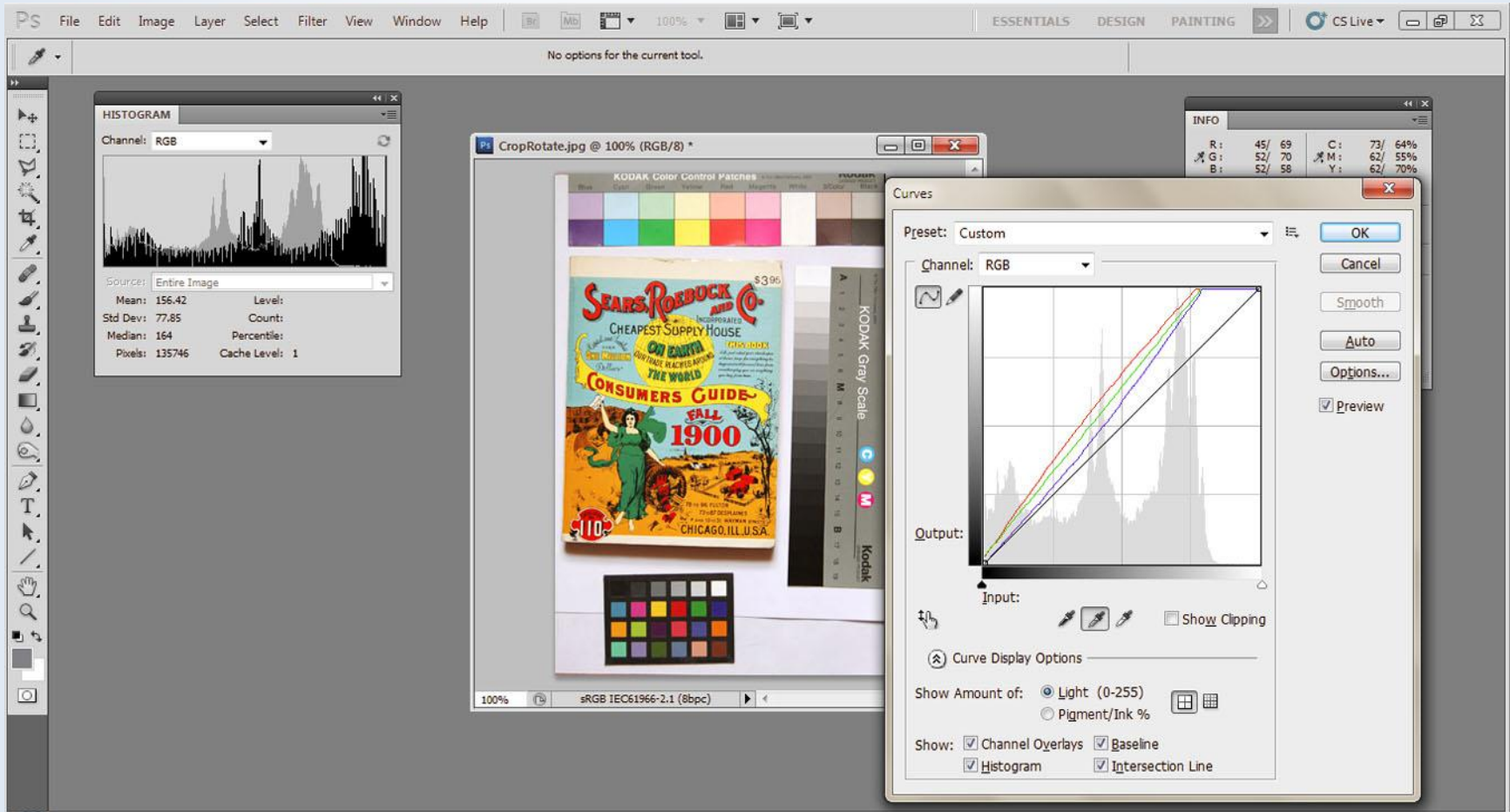
Doc: 397.7K/397.7K

Click image to choose new color
- Main Canvas:** A vintage advertisement for Sears, Roebuck & Co. featuring a woman in a green dress and a horse. The text includes "SEARS, ROEBUCK & CO.", "CHEAPEST SUPPLY HOUSE", "ON EARTH", "CONSUMERS GUIDE", "FALL 1900", and "CHICAGO, ILL. U.S.A." The image is surrounded by color calibration tools like the Kodak Color Control Patches and a Kodak Gray Scale.

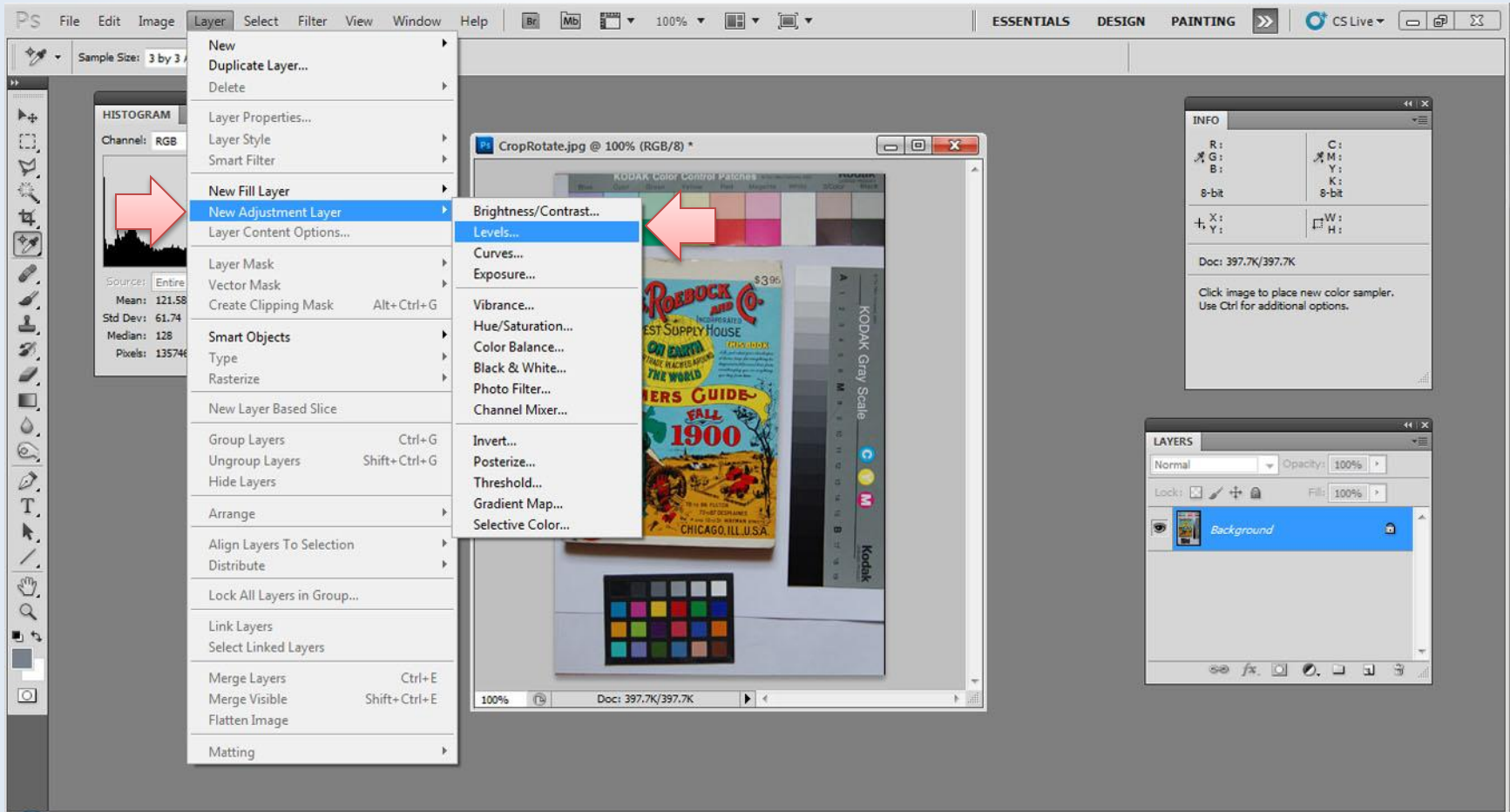
# History



# Curves

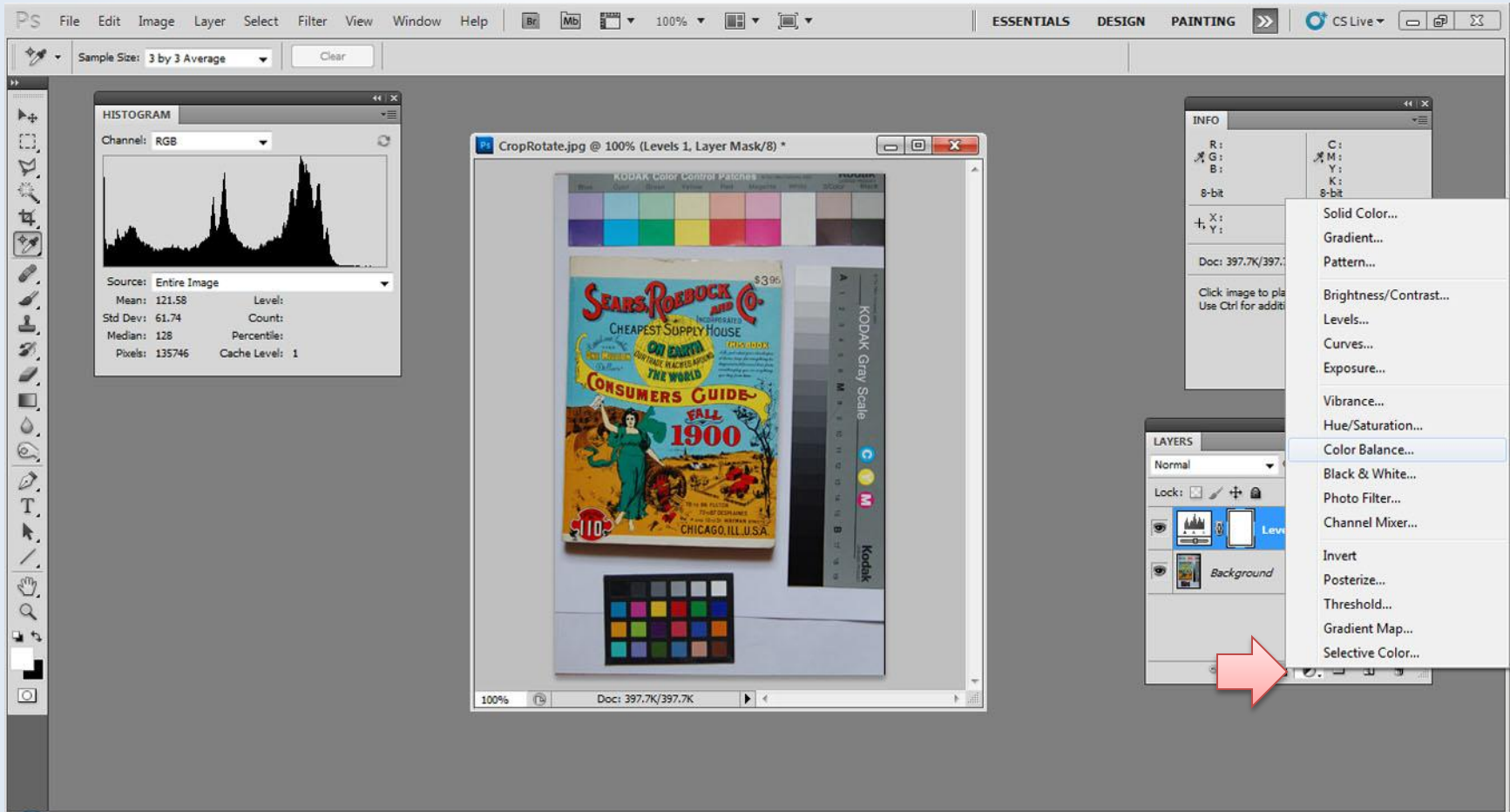


# Adjustment Layers

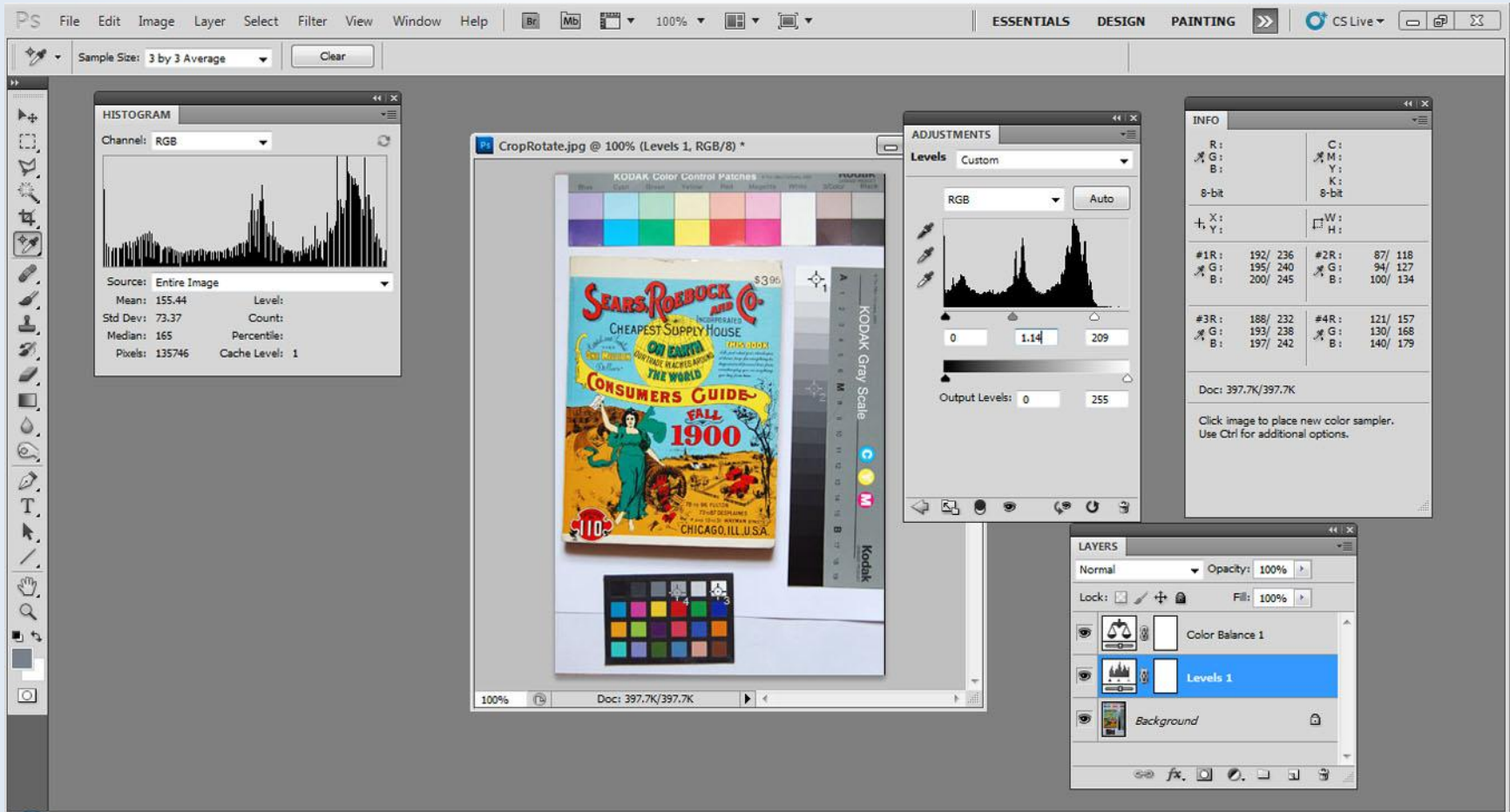




# Adjustment Layers

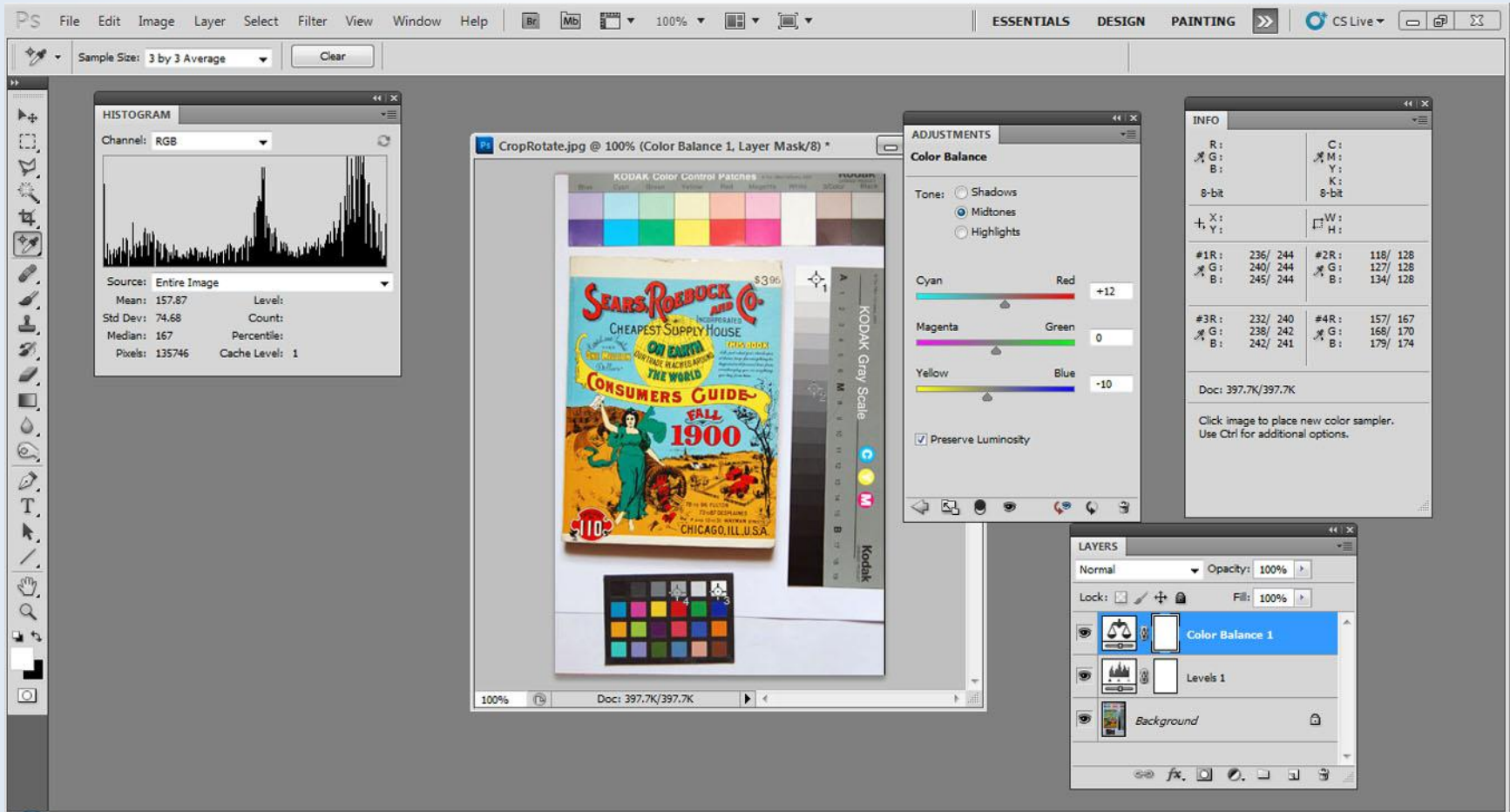


# Levels Layer





# Balance Layer



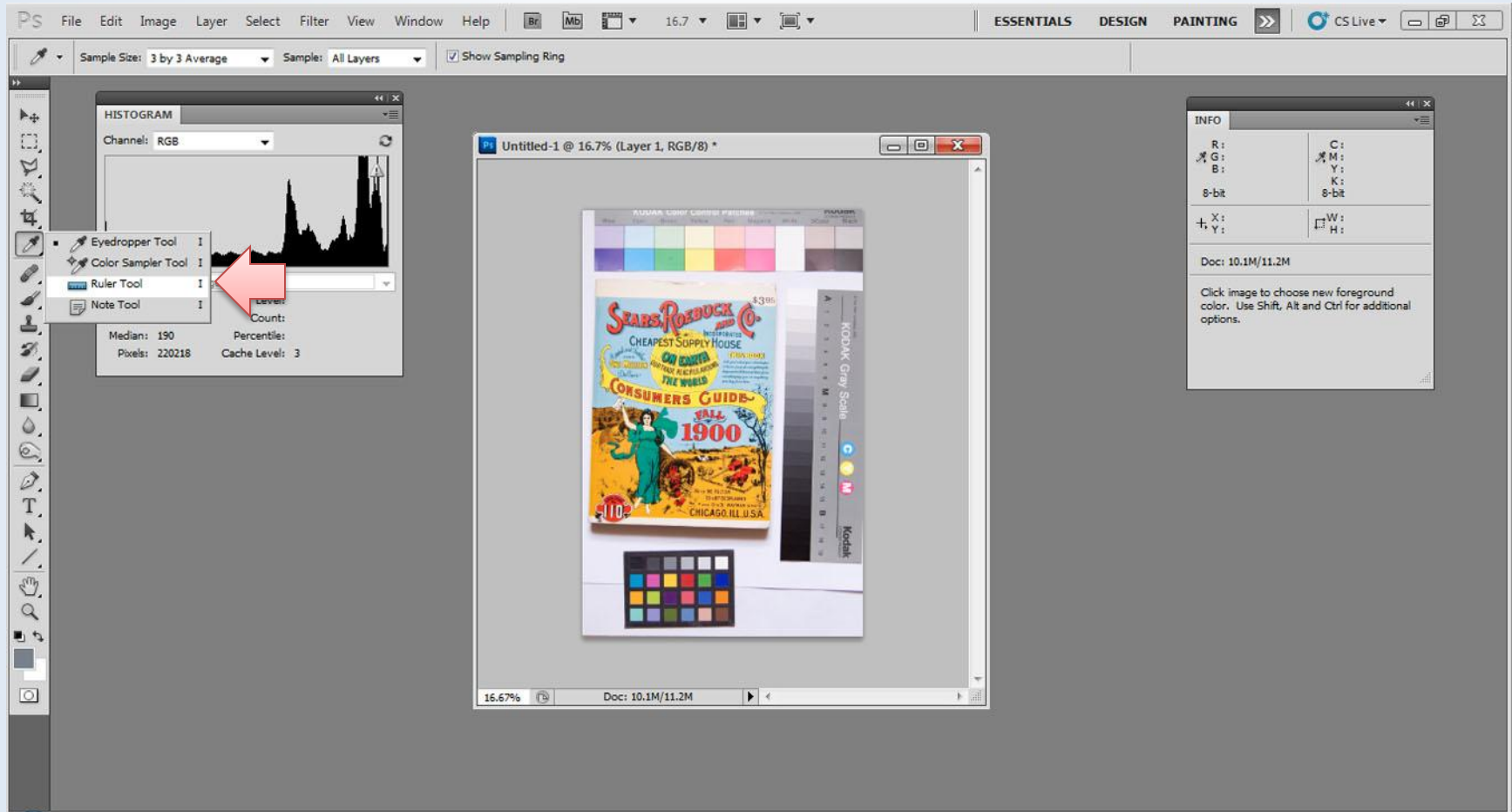
# Crop/Rotate

## Tools

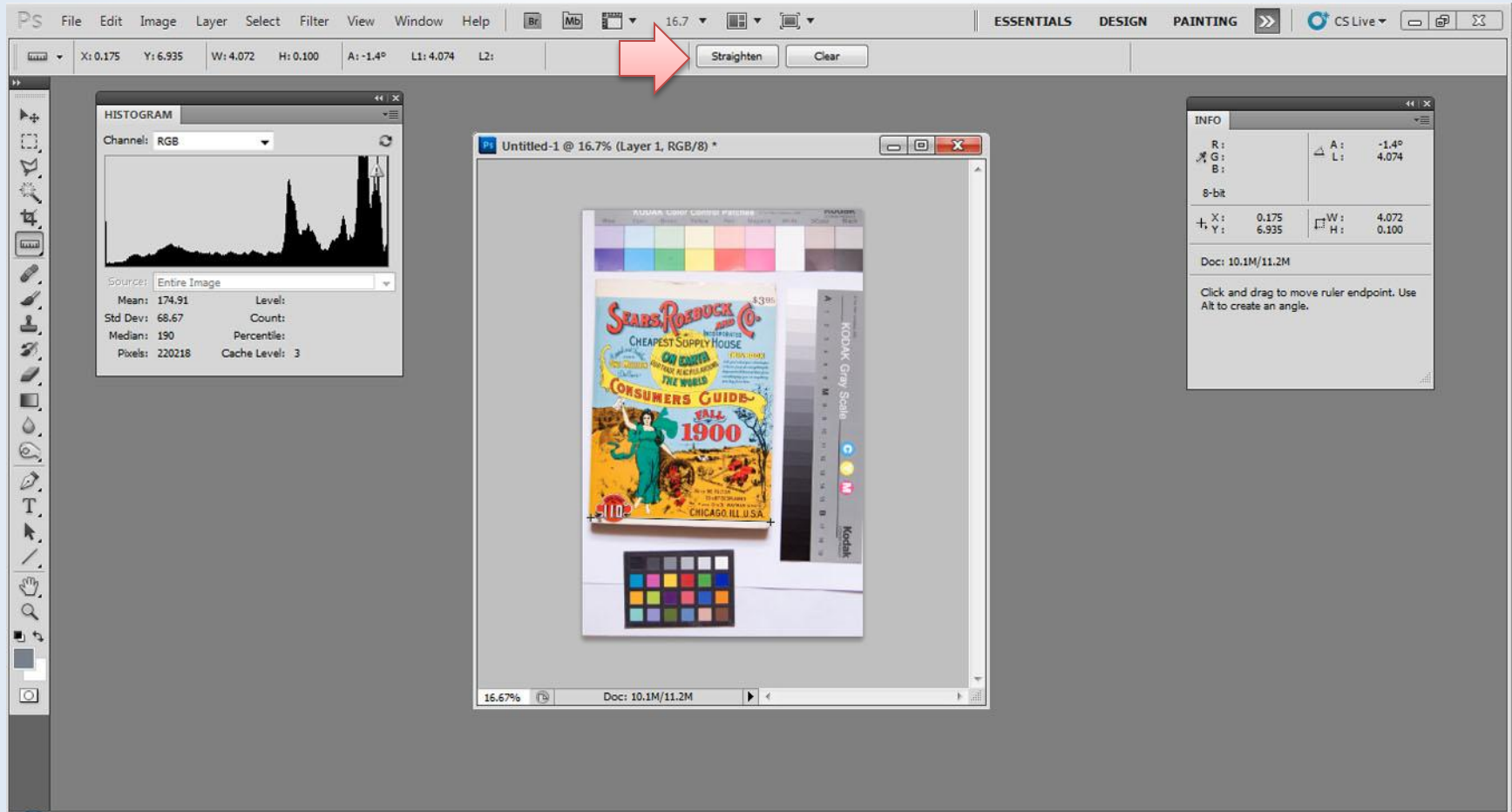
- Crop
- Ruler



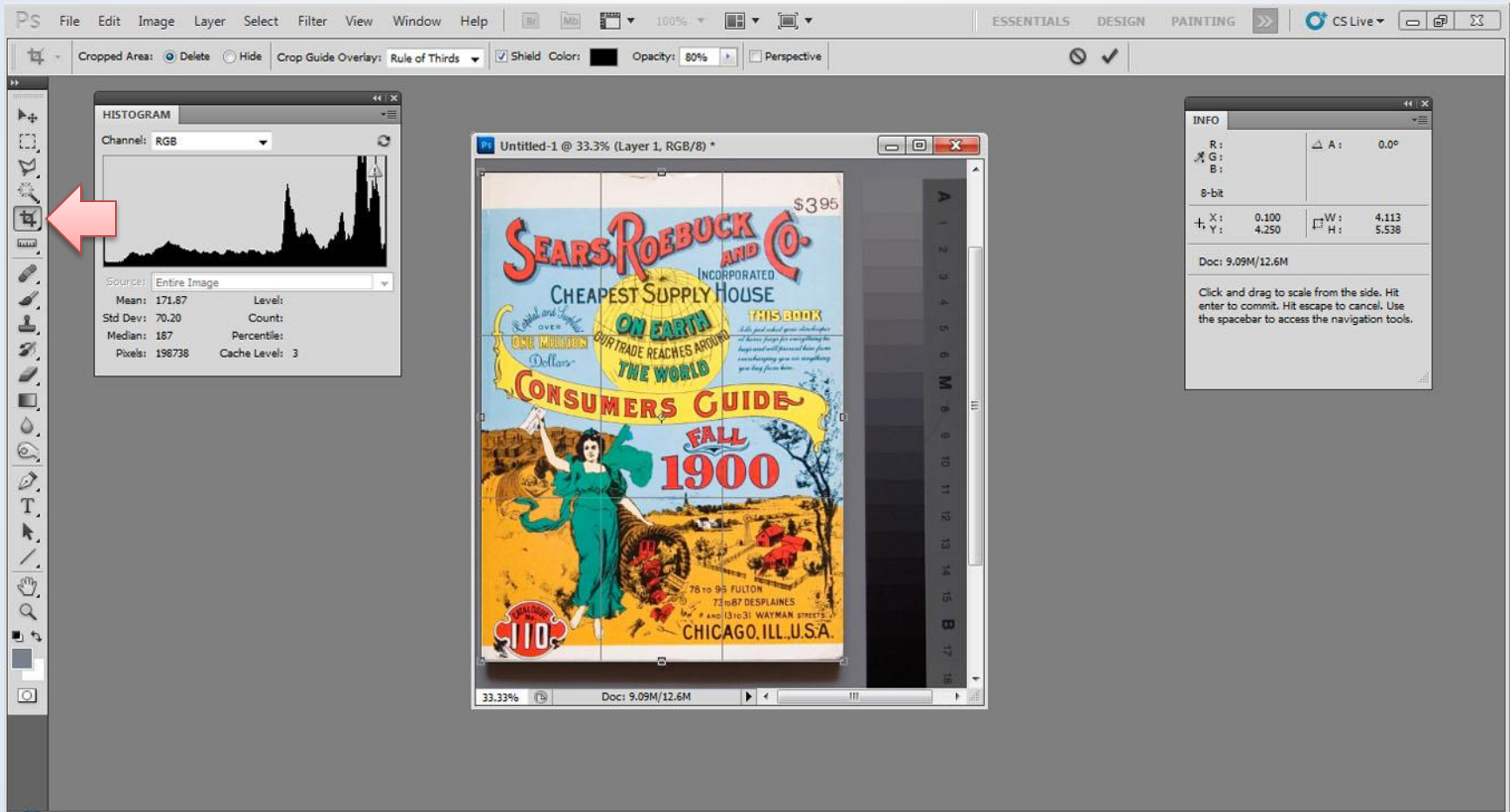
# Ruler



# Straighten



# Crop





# Sharpen

Tool

- Hand
- Magnifier

Adjustments

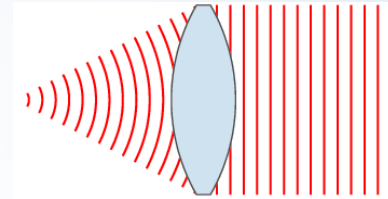
- Unsharp Mask



# Sharpness

Focus is the point at which reflected or refracted rays of light converge

- Focus is a physical measurement

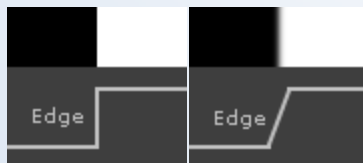


“Sharpness describes the clarity of detail in a photo... Two fundamental factors contribute to the perceived sharpness of an image: resolution and acutance.” – [Cambridge in Colour](#)

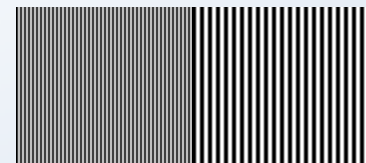
Acutance describes how quickly image information transitions at an edge, and so high acutance results in sharp transitions and detail with clearly defined borders.

Resolution describes the camera's ability to distinguish between closely spaced elements of detail, such as the two sets of lines.

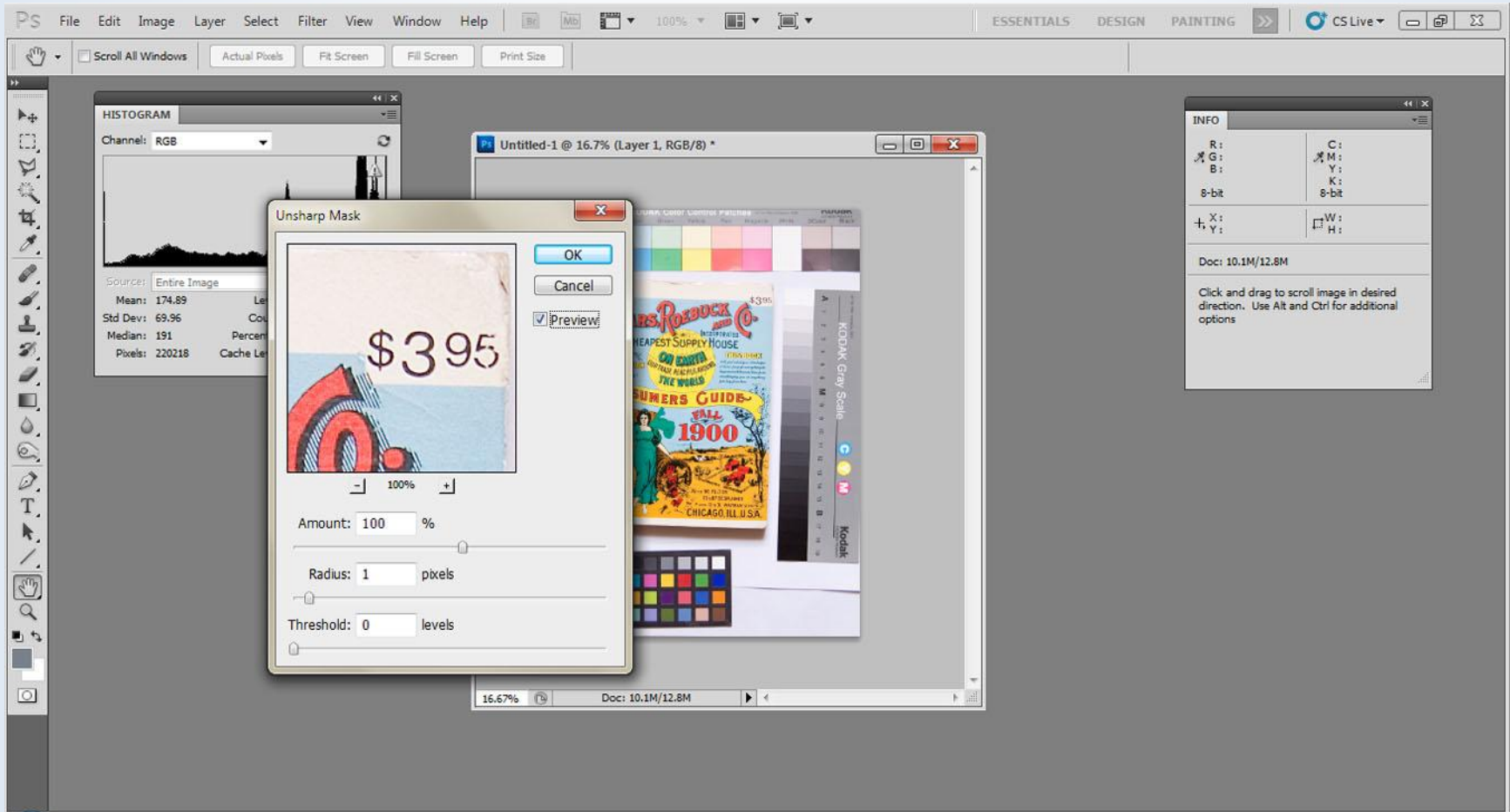
Acutance



Resolution

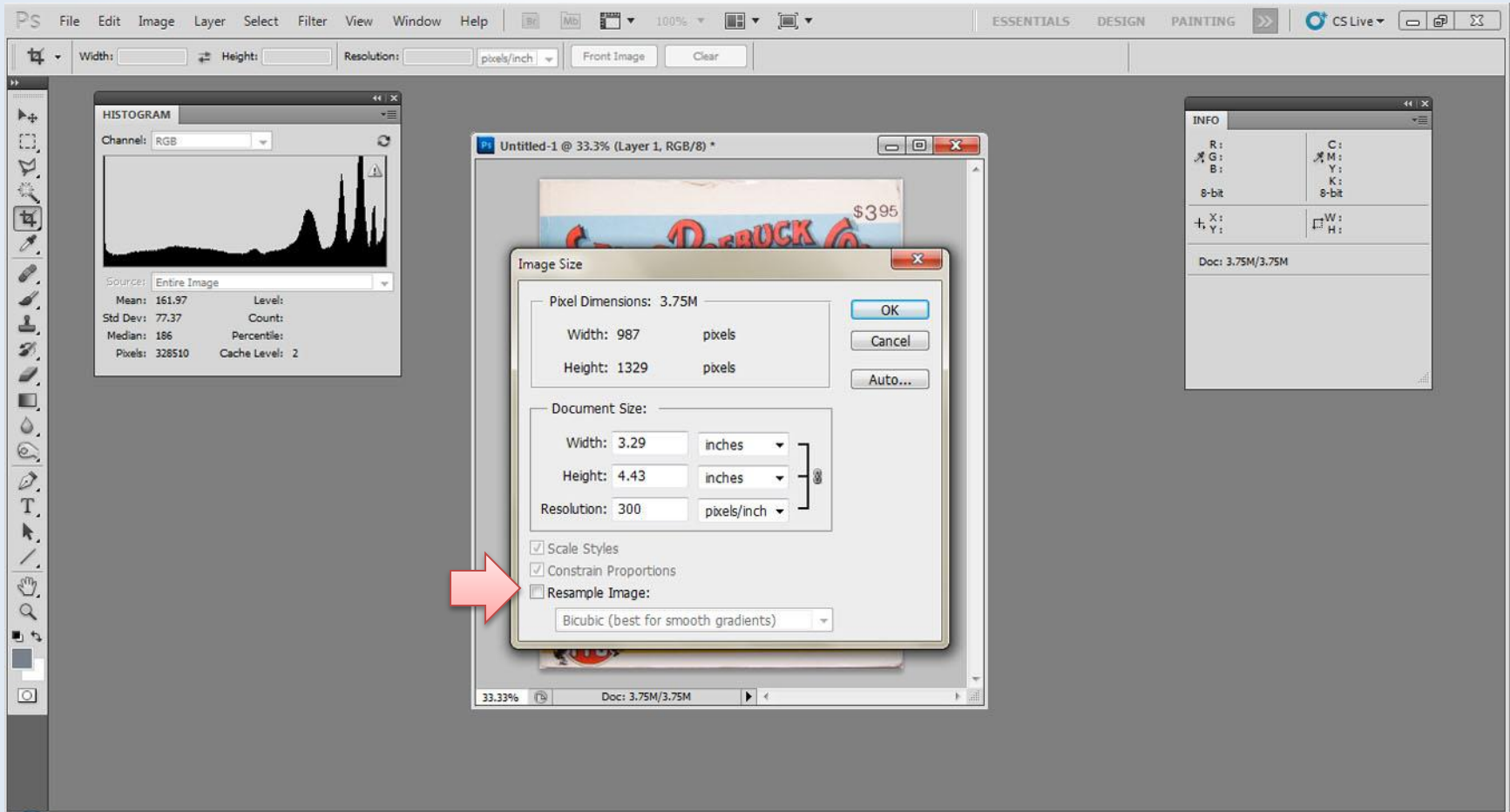


# Unsharp Mask





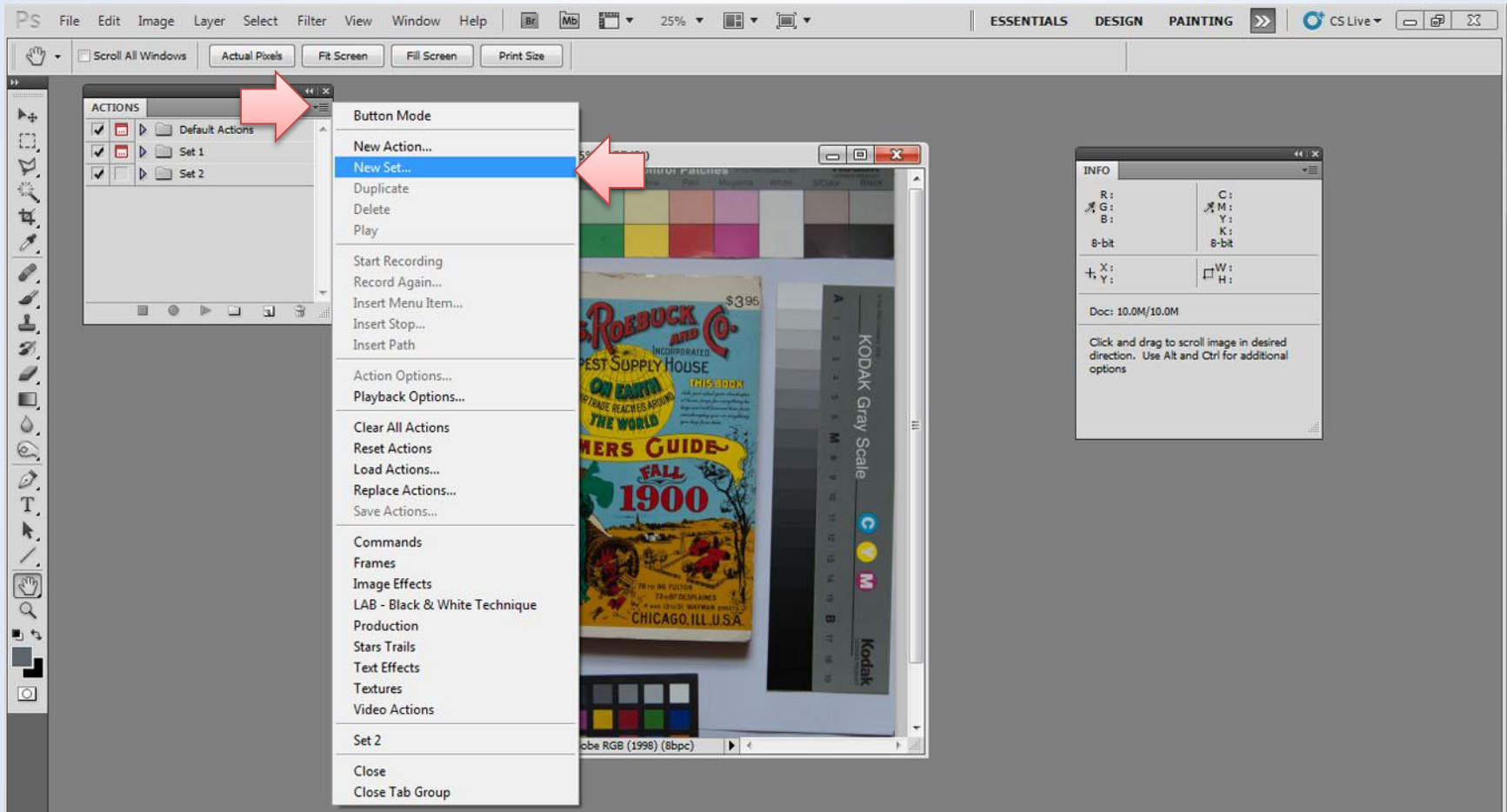
# Image Size



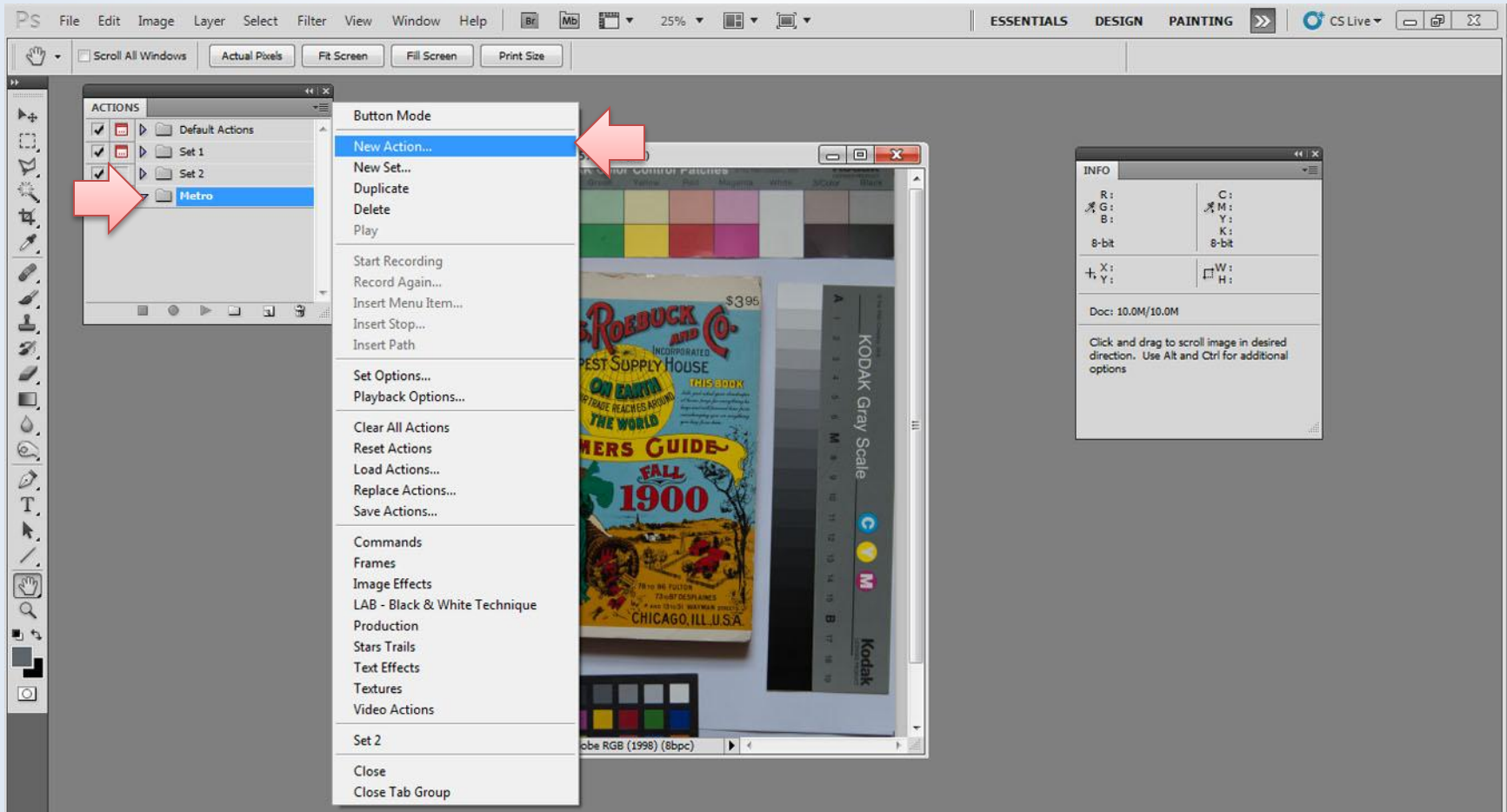
# Save Derivatives

- Jpeg
  - Convert to sRGB
  - Cropped
  - Sizes/Fit
    - Print
      - High spatial resolution
      - 150-300 ppi
    - Web
      - Jpeg
      - Sized to application
      - 72 ppi
    - Presentations
      - Jpeg
      - 8.5x11" x 150ppi = 1275x1650px
      - 150 ppi
      - PNG and GIF maintain transparency

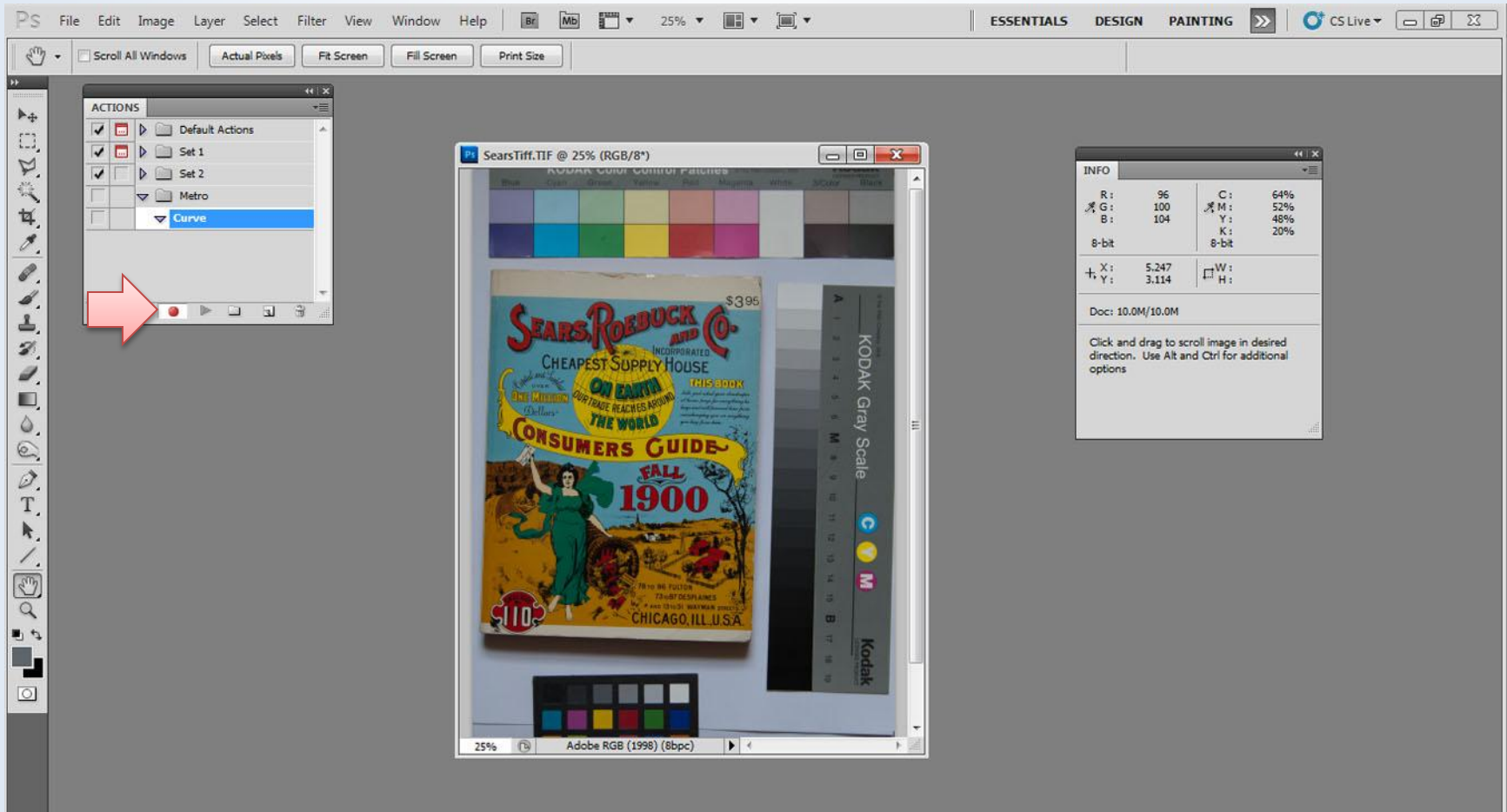
# Automation



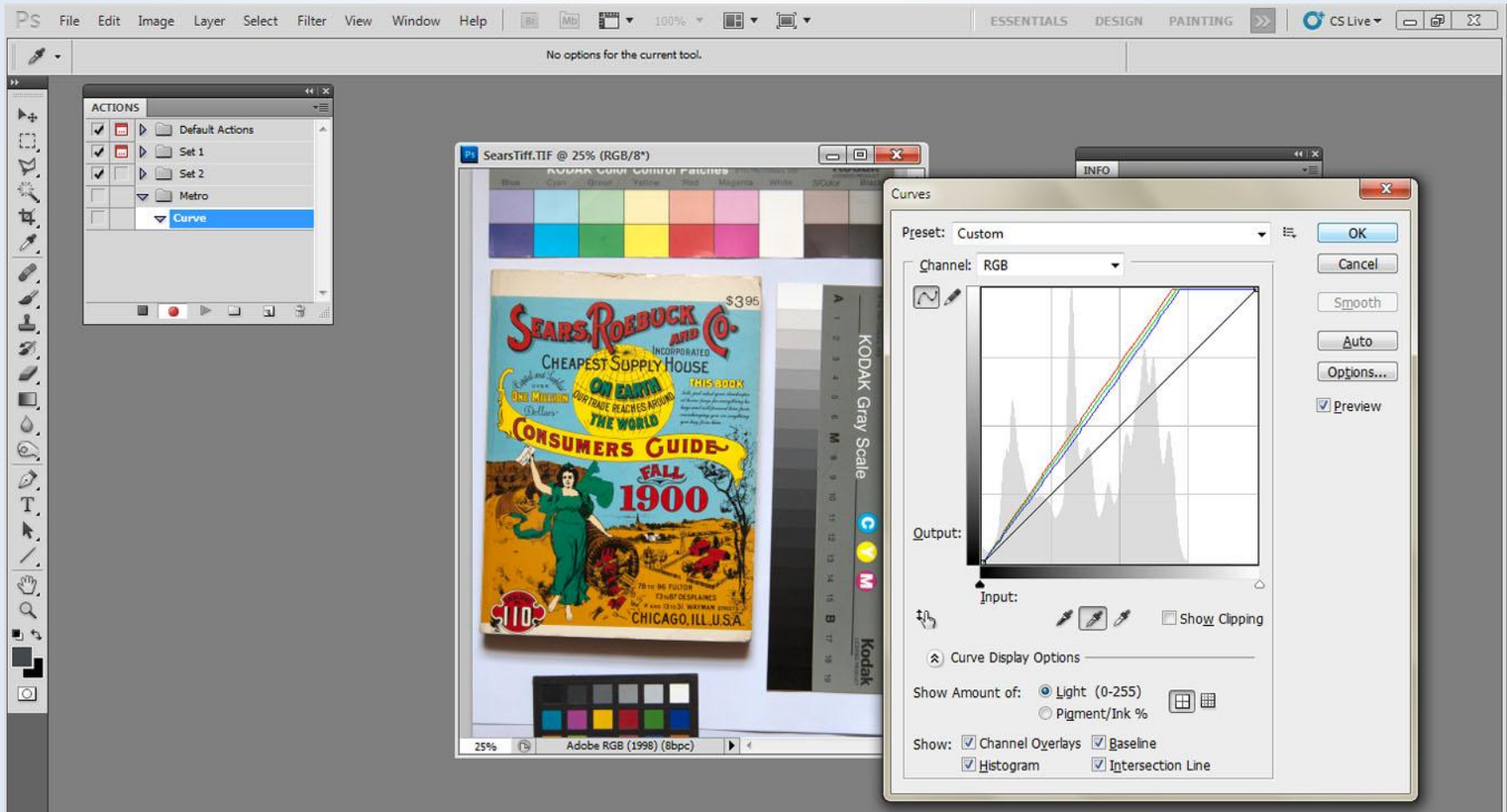
# New Action



# Recording

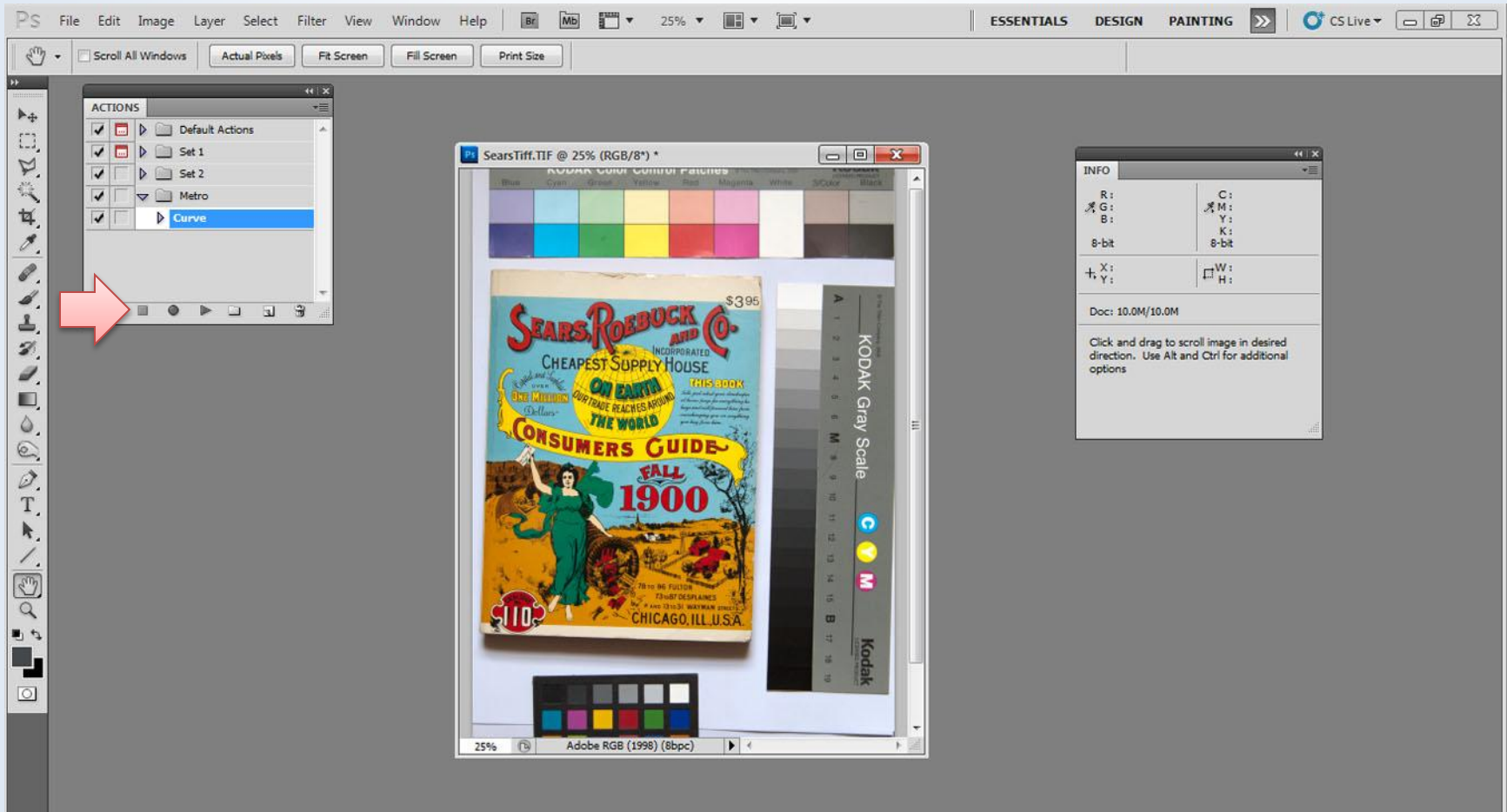


# Curve

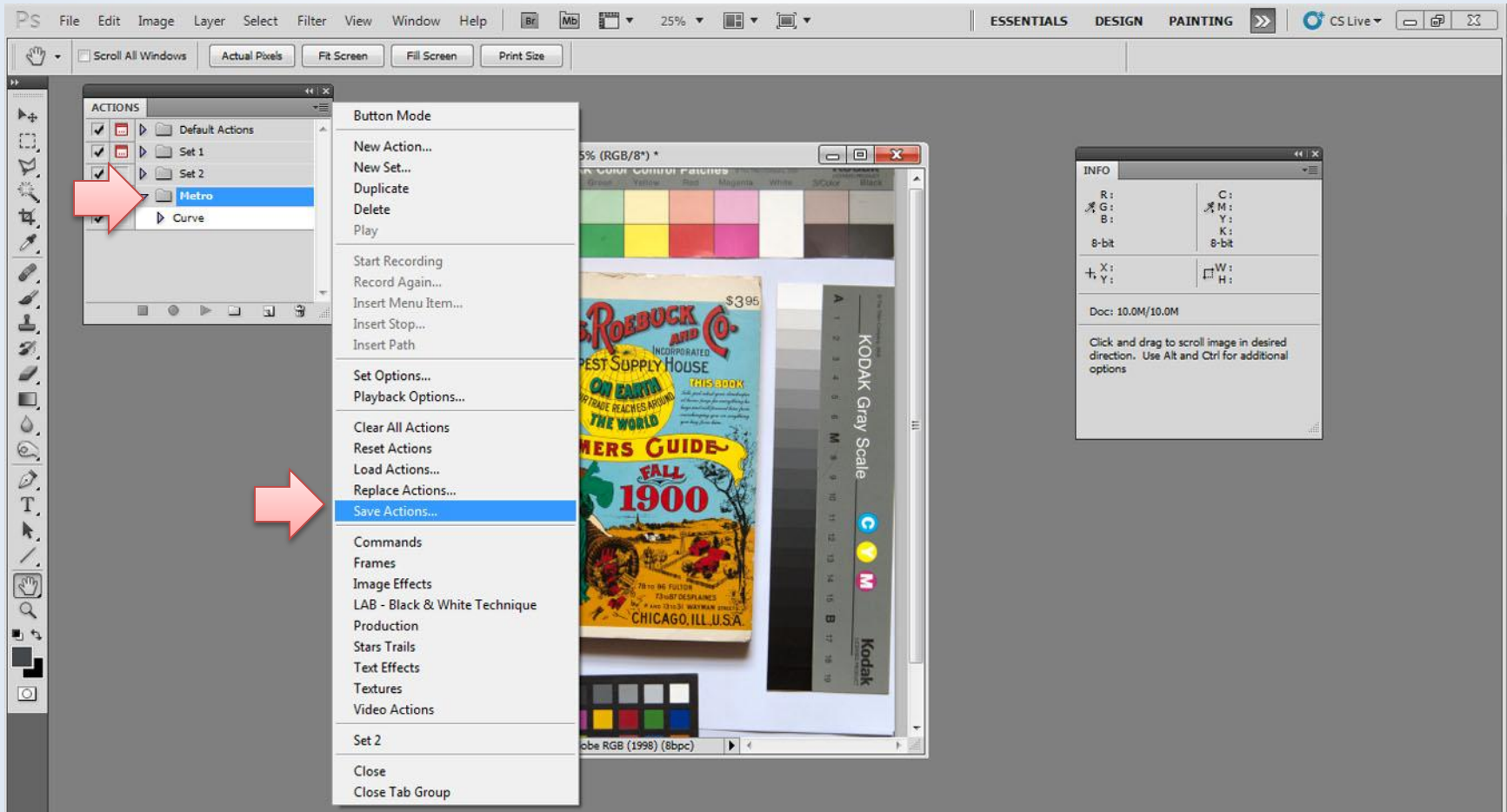




# Stop Recording

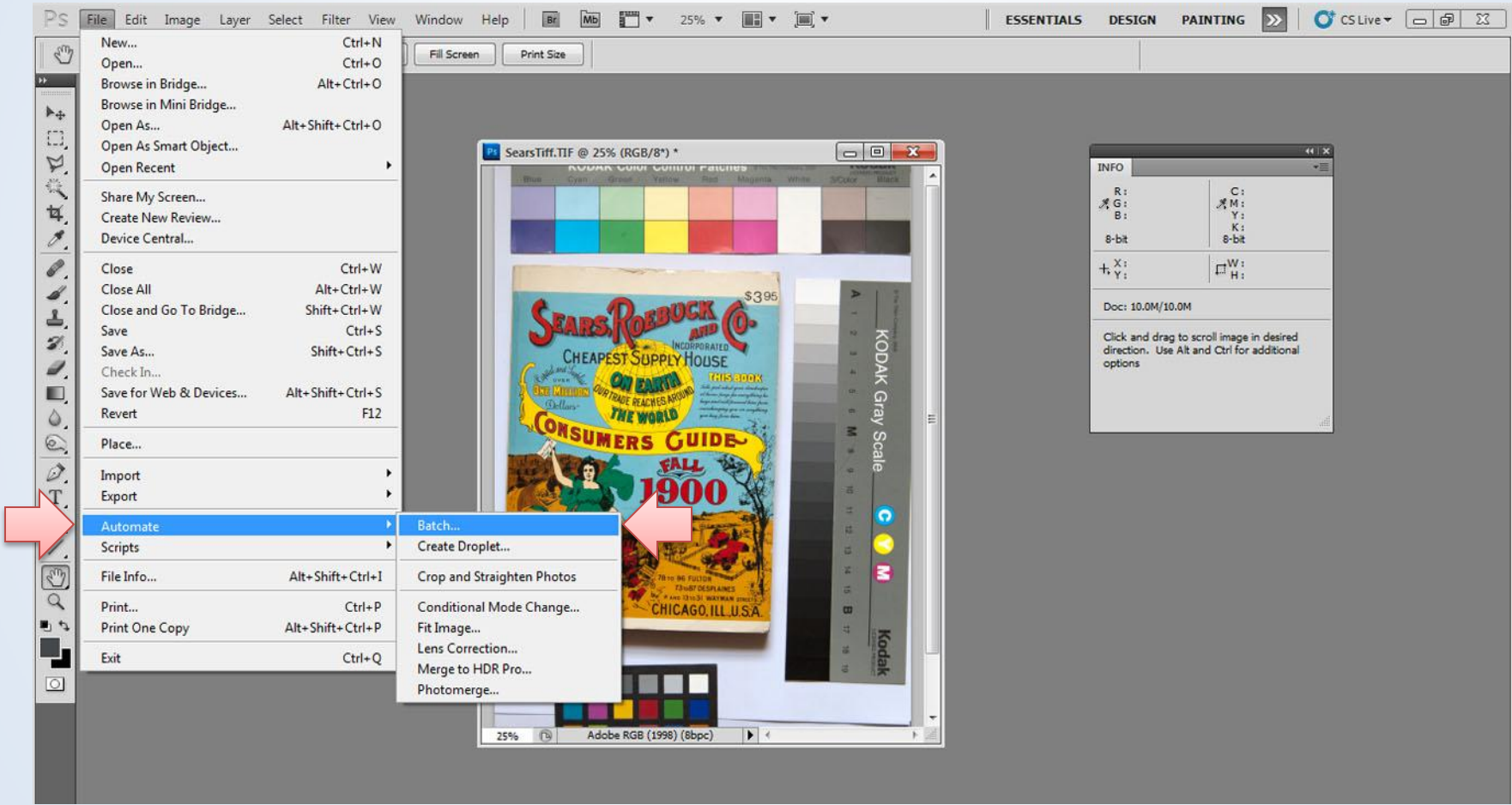


# Save Set

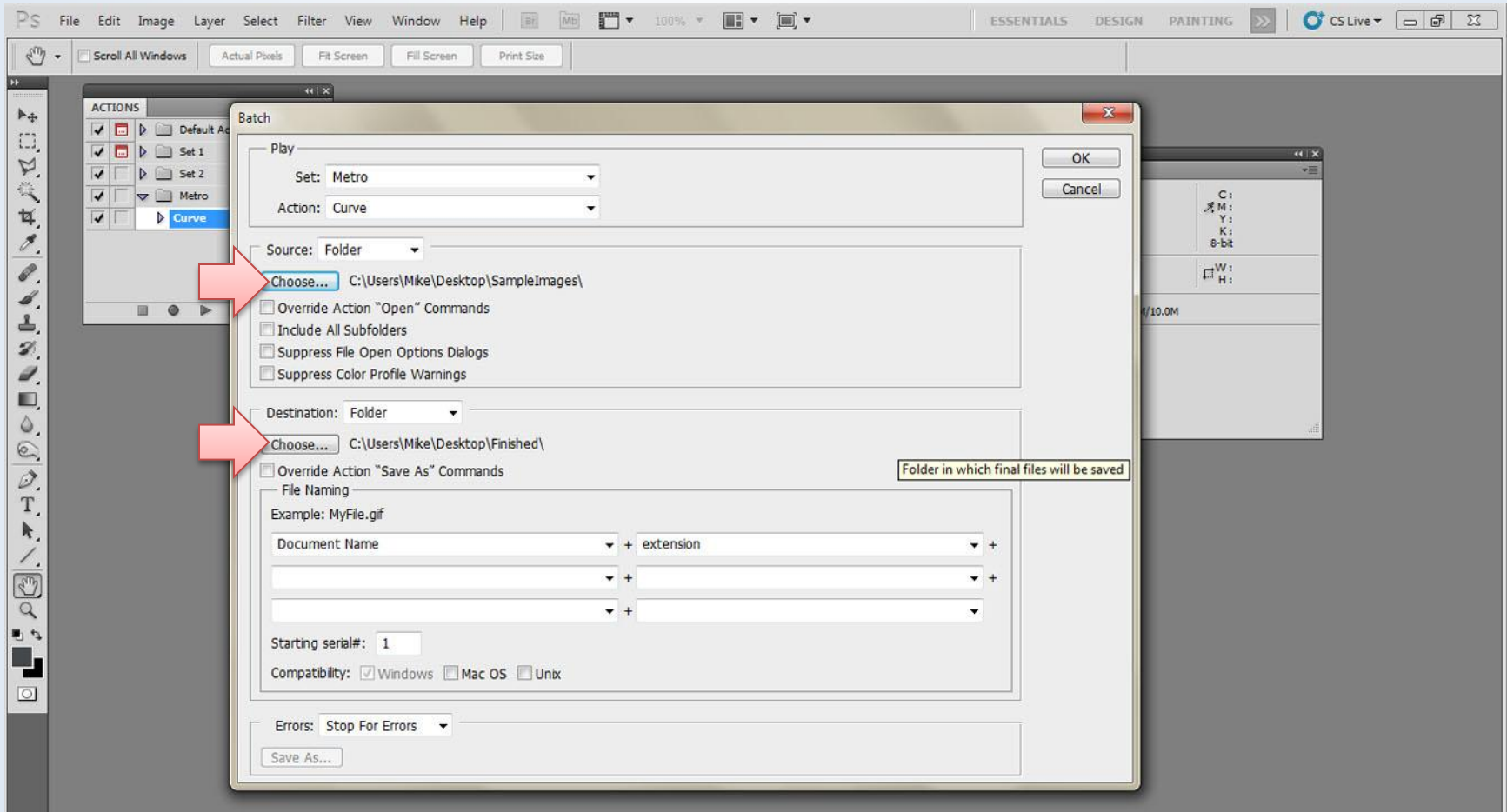




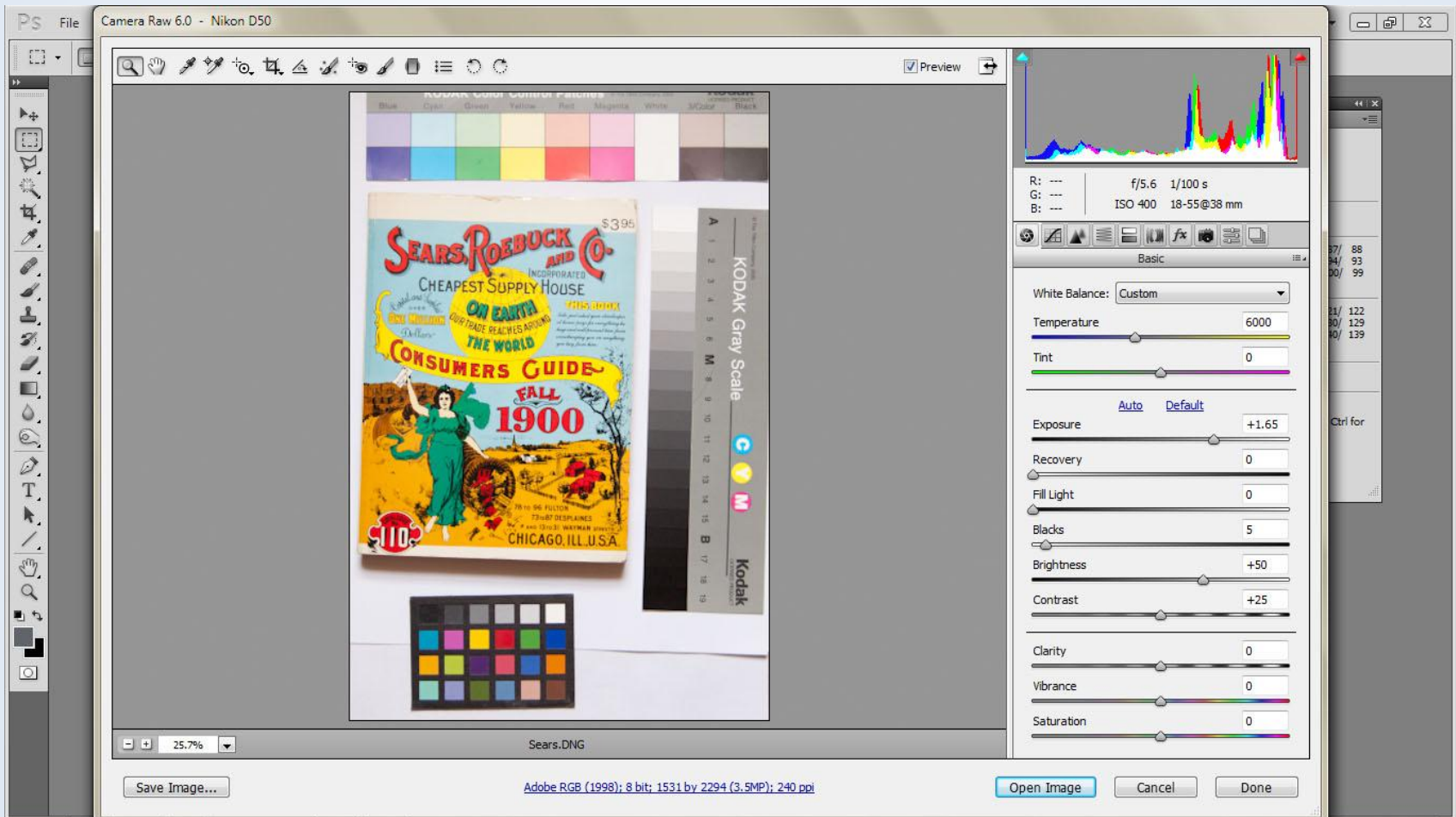
# Automate



# Batch



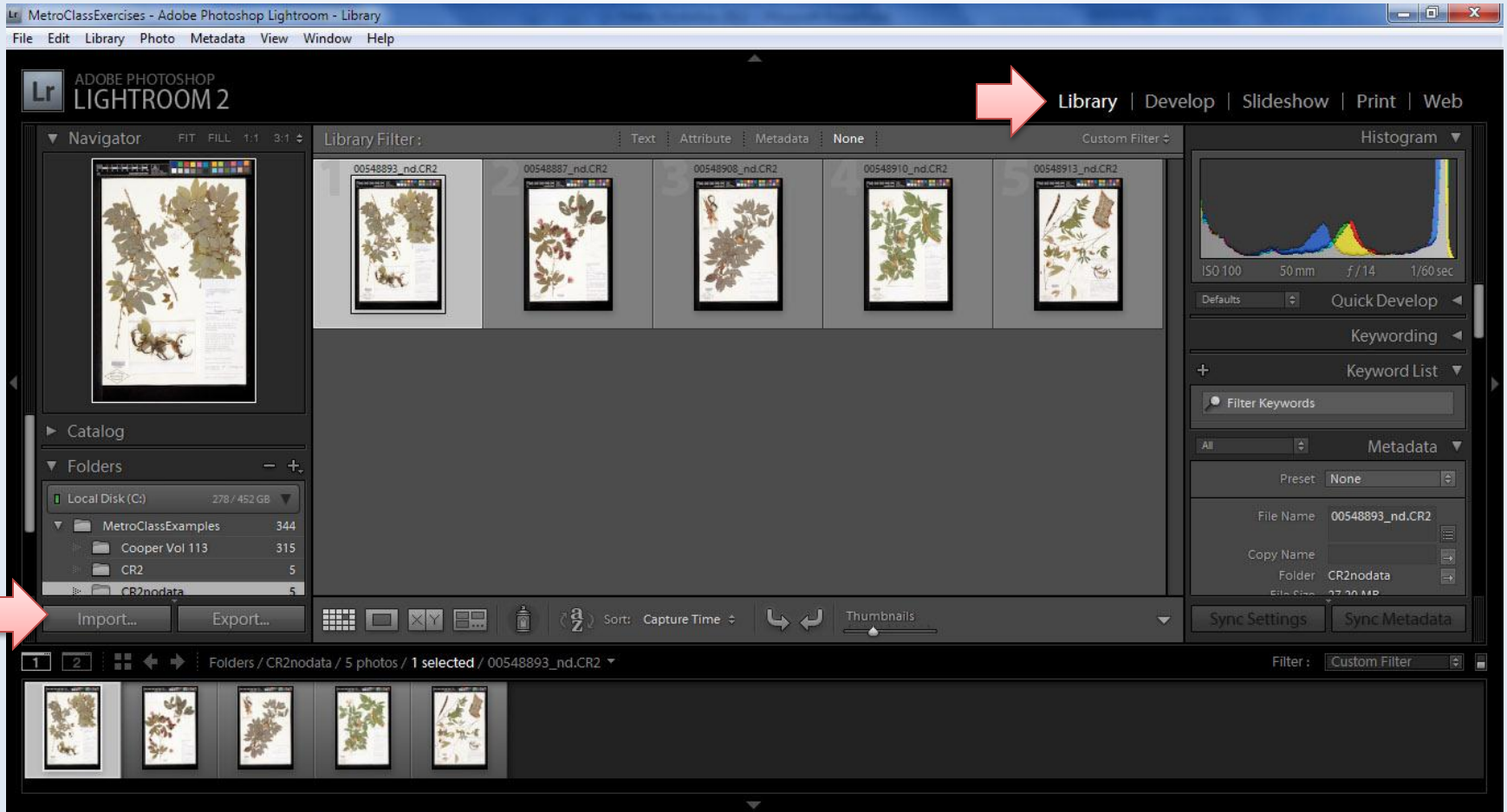
# Camera Raw



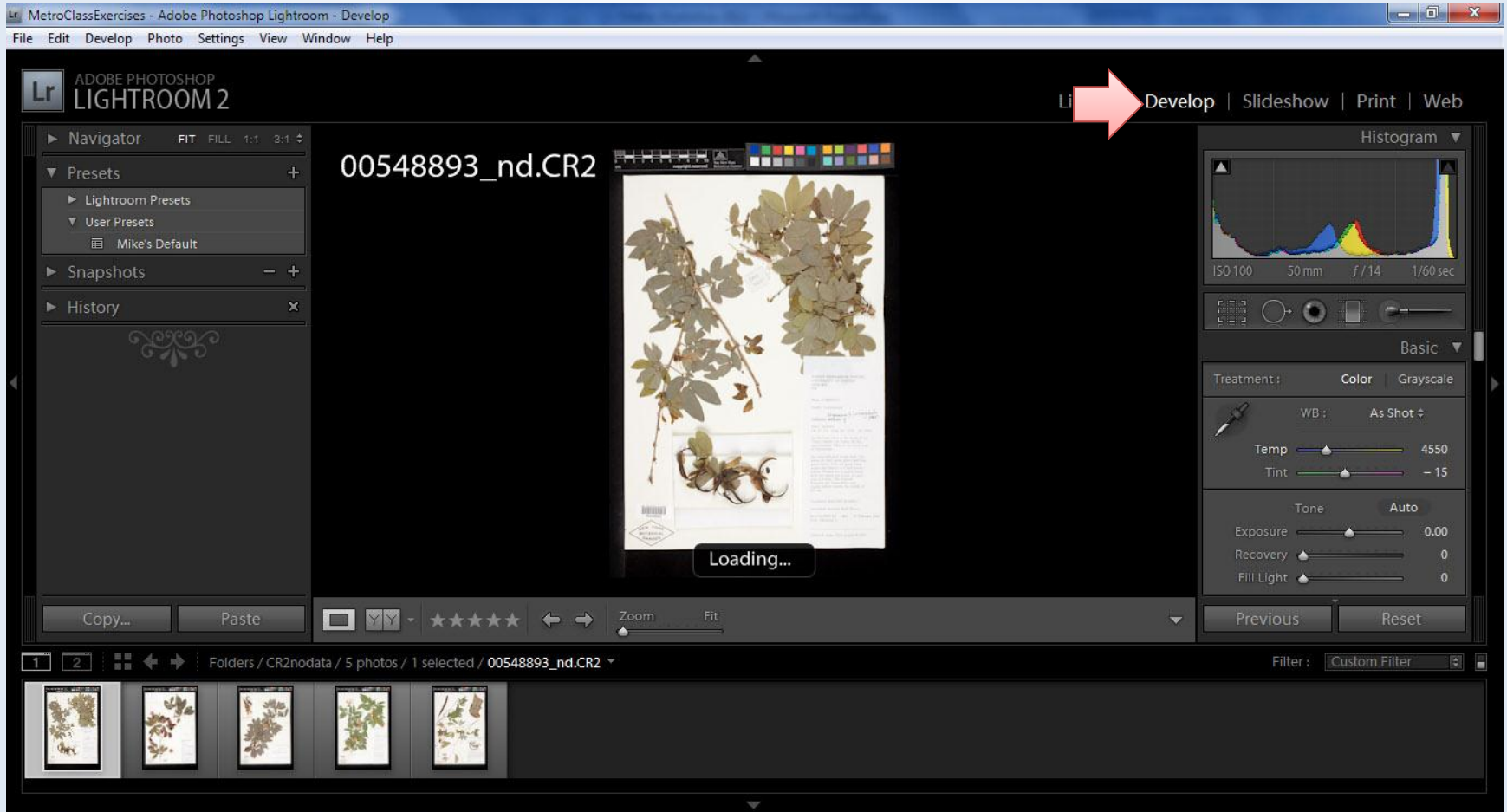
# Lightroom

- Lightroom is a parametric image editor
  - “Non-destructive edits”
  - Edits stored as metadata, applied to exported images, not originals
- For in depth tutorial, visit:  
<http://digitalphotorepro.blogspot.com/2012/02/nybg-herbarium-image-editing-workflow.html>

# Library



# Develop





# White Balance

The screenshot shows the Adobe Photoshop Lightroom 2 interface in the Develop module. The main workspace displays a photograph of a botanical specimen. A red arrow points to a color calibration chart overlaid on the image. The chart has a grid and a central crosshair, with the text "Pick a target neutral:" above it. Below the grid, the color values are displayed as "R 95.1 G 94.9 B 94.2 %".

The interface includes the following elements:

- Navigator:** Shows the current photo and its position in the library.
- Presets:** Lists available presets, including "Mike's Default".
- Basic Panel:** Shows the current white balance settings: "WB: Custom", "Temp: 4738", and "Tint: -15".
- Histogram:** Displays the color distribution of the image.
- Library Grid:** Shows a row of five photo thumbnails, with the first one selected.

The status bar at the bottom indicates the current photo is "00548893\_nd.CR2" and shows the "WB: Auto Dismiss" and "Show Loupe" options.



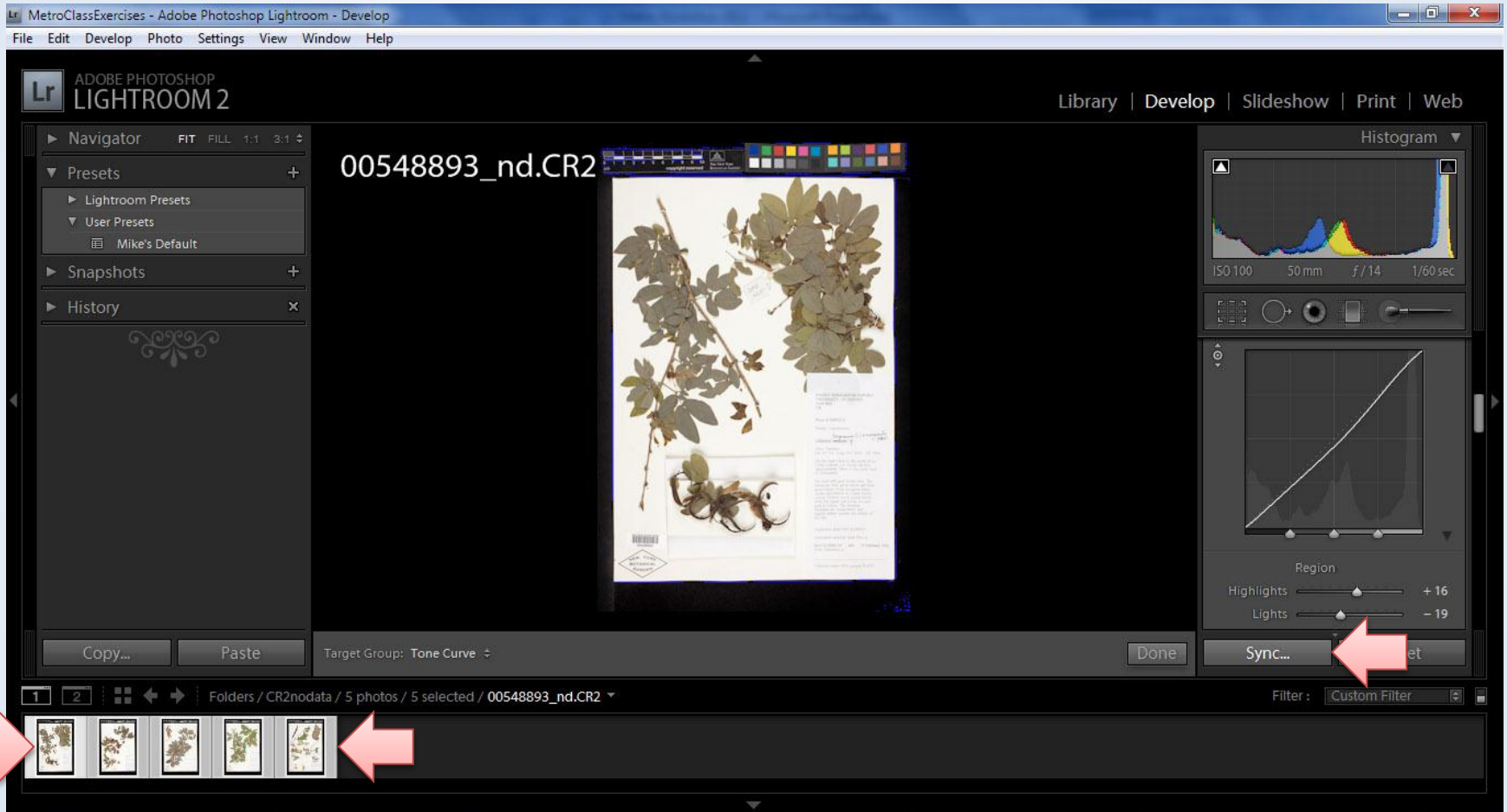
# Tone Curve

The screenshot displays the Adobe Photoshop Lightroom 2 interface in the Develop module. The central workspace shows a photograph of a botanical specimen with the filename "00548893\_nd.CR2". The right-hand panel is open to the Tone Curve adjustment tool, which includes a histogram at the top and a graph below. The histogram shows a distribution of tones with a peak in the mid-range. The graph shows a straight diagonal line, indicating a linear tone curve. Below the graph, the "Region" section has sliders for "Highlights" set to +16 and "Lights" set to -19. A red arrow points from the histogram area towards the graph. The interface also shows the Navigator, Presets, and History panels on the left, and the Library, Develop, Slideshow, Print, and Web modules at the top right. The bottom of the screen shows a filmstrip of five photos and a filter set to "Custom Filter".

# Exposure Warning



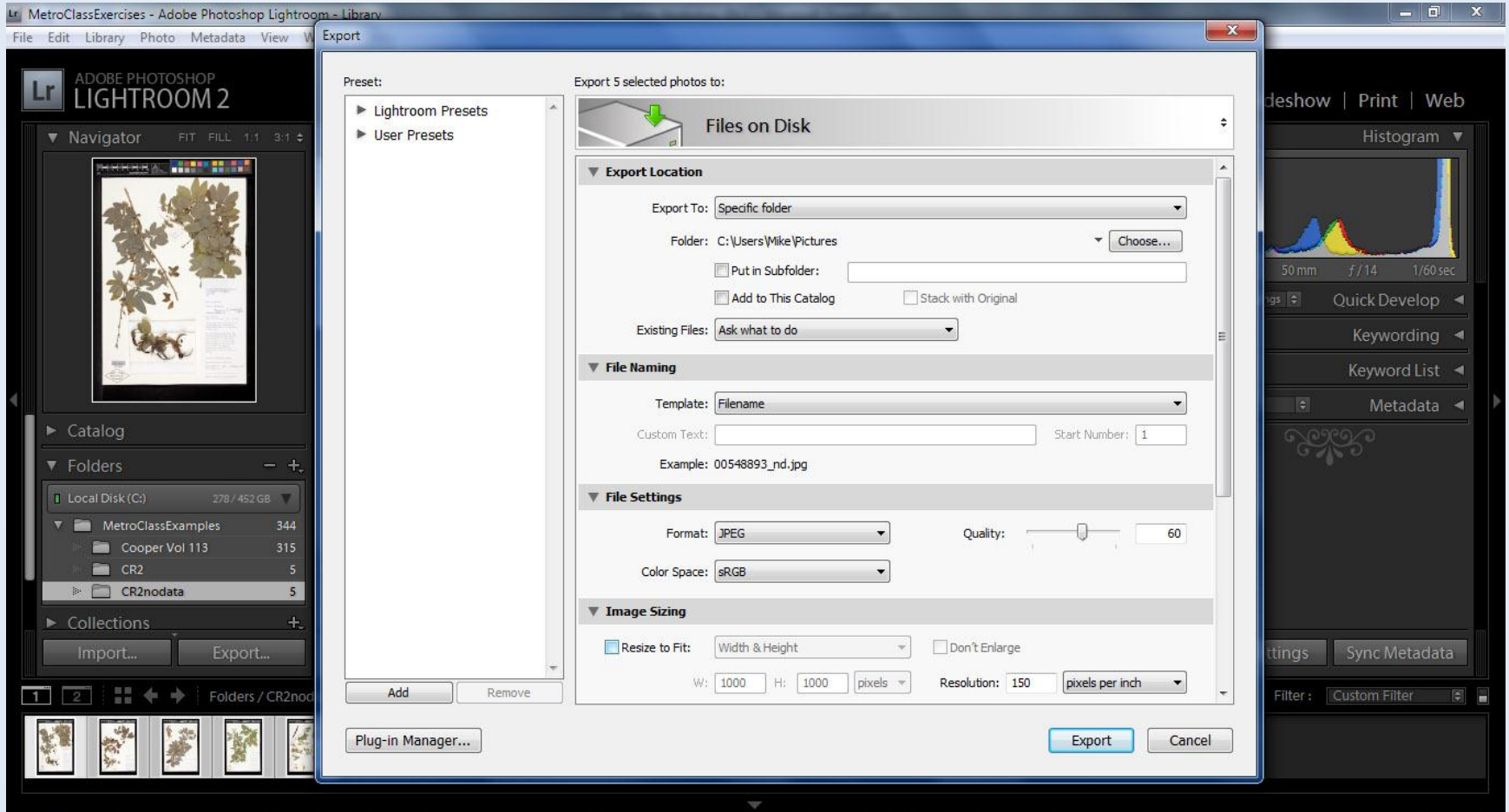
# Sync



# Super selected

- In Lightroom it is possible to select multiple images at a time
- The image with the lightest border is “super-selected”
  - This is the image whose properties are being synced

# Export



# Job Seekers

- The New York Metropolitan Library Council
  - <http://metro.org/jobs/>
- The New York Foundation for the Arts
  - [www.nyfa.org](http://www.nyfa.org)
- The American Library Association
  - <http://joblist.ala.org>
- The Society of American Archivists
  - <http://www2.archivists.org/careers>