

# Scope

- Dynamic Range
  - Image density is measured from image brightness and ranges from 0 to 4, where 0 is pure white and 4 is very black. More density is less brightness
  - Easy to blow out highlights
  - Can more readily obtain shadow information
- Bit-depth
  - More bits needed simply to store data w/ high dynamic range
  - Bits do not create dynamic range, they only allow it to be stored
  - Tiny variations in shadows might be one color at 8 bits, but 16 shades at 12 bits. More shadow detail!
  - Levels and curves ( w/o layers) offers less posterization

# Scope (cont)

- RAW Images (12-bit)
  - Allows creation of 16 bit depth images (Import at 16 bits per channel)
  - Increased bit depth and all that that entails
  - By importing 2 versions with two EV's from same RAW image, **maybe** can increase dynamic range as discussed on next slide
  - RAW image capture offers additional value and features to be covered at another time
- Noise
  - Exists in the shadows
  - Software available to reduce noise (NeatImage, Noise Ninja, ISOx Pro Plugin, ...)
  - Photoshop tricks and techniques
  - Photoshop tools (Despeckle, Smart Blur (8), Dust & Scratches, Median)
  - Multiple scans reduce (hardware or software)
- Multiple Scans
  - Noise reduction. Scan in hardware (some). Use software to average multiple scans (PTAverager, VueScan)
  - Dynamic range increase with two scans with different analog gains

## Increasing Dynamic Range

- Multiple Captures of Same Image ( with various exposure values)
  - The Painted Mask (demo)
  - The Layer Mask (demo)
  - Miranda's Dynamic Range Increase (DRI) Action (discuss)
  - Photoshop Artistry 7 (Chapter 26) (discuss)

## Various Related Tools and Techniques

- Shadow/Highlights correction (Adobe Photoshop CS) (Hales has a paper & software)
- Correcting a High-Contrast Image (Warren - paper)
- Thread from DPReview (Warren - available)
- Digital SHO Pro (Kodak)
- Shadow Recovery Professional
  - SR Pro Plugin

## Notes – The Layer Mask

- Split ND filters were main way of dealing with very high contrast range images
- Now with digital cameras and digital darkroom better ways exist
- Take two separate frames of the same scene. One exposed for the highlights, one for the shadows. Usually there will be a two or three stop spread between them
- Set the digital camera for auto-bracketing, to Aperture Priority, to manual focus, and on a tripod

## Notes – The Layer Mask (cont)

- Follow the steps in George DeWolfe's tips and tricks paper describing the Layer Mask technique
  - To get paper go to Adobe web site:  
<http://studio.adobe.com/search/search?f=k&keyword=Total+Contrast+Contr&product=15&submitkeyword.x=33&submitkeyword.y=9> and log in
  - The following link is more direct; however, this may not work without the above link and login:  
<http://studio.adobe.com/tips/tip.jsp?p=1&id=408&xml=phs8contrast>
  - Remember Alt-click (on mask in Layer Palette) to expose mask
  - Further adjustments to Layer Mask in Step 5
    - Paint the mask w/ big brush
      - Black in dark areas to lighten
      - White in light areas to darken
    - After flattening can fine tune using Layers, Curves and Hue/Sat
    - And finally you can sharpen
- Alternatively the Painted Mask or the DRI Action can be followed. Before using DRI open dark frame and extract as much shadow detail as possible