Painting with Light

Creative Photography for People, Places, and Things

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People









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Things Image: Constraint of the second sec

TOPICS

- Lens selection
- Lens settings
- Shutter selection and settings
- Film selection
- Compositional tools
- Lighting direction and quality
- "Pre-visioning" images

Different Controls on Different Cameras

- Every camera has different controls labeled differently in different positions (even by the same manufacturer)
- Best way to learn your particular camera is to experiment
- Because of the variety the only way to truly understand how your camera works is to read the entire manual!









The Lens, the Shutter, and Recording "Film"

- □ All cameras have these three components
- Lens is the "brush", the recording "film" is the canvas, and the shutter determines how long you spend "painting"

The Lens is the "brush"

- The lens is the most crucial component and the most flexible in creating photographic images
- Affects perspective
- Affects range of clear focus
- Affects shutter speeds



























Apparent Perspective

Subject with wide angle
Subject with normal

Subject with telephoto

Wide Angle – wide field of view















Lens f-stop markings

- Depth of Field lines
- Hyperfocal distance (the nearest distance where lens can still focus on infinity)











What does the "f-stop" mean

- Number of "rounds" of the iris to make it from the lens focal point to the film
- □ F11 means "11 circles"
- F stops start at F1 and each stop is multiplied by 1.4 (approx)
- or each circle is 70% of the size of the prior)
- **1**, 1.4, 2, 2.8, 4, 5.6, 8, 11, 16, 22, 32, 45



Shutter selection and settings

- Leaf Shutter
- Focal Plane Shutter
- Digital Shutter

Shutter Speed Markings are fractions. 60 means 1/60th second 125 means 1/125th second 8 means 1/8th second Red indicates shutter "flash-sync" speed Normally 1/60th second or 1/125th Using flash at a faster speed leaves photos "unlit" in a portion





Shutter Speed Affects "Movement"

- A faster shutter speed helps "freeze" movement, while a slower shutter speed creates "motion blur"
- When handholding a camera the shutter speed should be set higher than the focal length.
 - 50mm lens set at least 1/60s or shorter
 - 200mm lens set at least 1/250s or shorter
 - Or use tripod



1/30th second



1/125th second





Combining f-stop & shutter speed

- □ The film is a "bucket" that needs to be correctly filled with "water" (light)
- Bigger f-stop opening (hose) requires less time to "fill the bucket"
- Smaller f-stop opening (hose) require more time to "fill the bucket"
- Wrong combinations mean either too much light (overfill) or too little (underfill)





Several combinations can add
up to the "correct setting"
□ SUNNY 16 Rule (ISO 100 film)
□ F16 @ 1/125 th second
□ F11 @ 1/250 th second
□ F8 @ 1/500 th second
□ F5.6 @ 1/1000 th second
□ F22 @ 1/60 th second
Each full f-stop increase (f8 to f11) requires a





Using Camera Meter

- □ Meters can be fooled!
- □ The entire scene needs to balance to "average gray" (backlighting or dark backgrounds "trick" the meter)
- □ At the position of the subject take a close-up meter reading of your hand (or gray card) and lock in those settings

Film selection

- Film speed is how "fast" the bucket can get filled up (speed of capture)
- Can be though of as the "size" of the bucket
- ISO 200 speed film is twice as "fast" as ISO 100, yet only half as "fast" as ISO 400 speed film
- A faster speed means a "smaller bucket"

END OF SECTION 1

- Assignment 1
 - Photograph a household object or "stilllife" setup (food, table settings, arts/crafts)
 - Intentionally use different combinations of shutter speed and lens f-stop
 - Intentionally use different lenses and apparent perspectives
 - Use only one-consistent lighting setup
 - Log exposure information for each frame

Section 2 Setting Your Shot







M setting (Manual)

- Allows you to pick
 - Shutter speed
 - Aperture
- Pluses
 - Most creative control
 - Can force exposure correction
- □ Minuses
 - Requires you to actively set exposure for each shot



A setting (Aperture Priority)

- Allows you to pick aperture
- sets shutter speed automatically
- Most useful setting
 - controls depth of field / sharpness throughout scene
- Pluses
 - Easy to use / most creative "focus" control
- Minuses
 - Slow shutter speeds may have "shake"

S setting (Shutter Priority)

- □ In Canon T-lens models this is TV
- □ Allows you to set shutter speed
- aperture is set automatically
- Camera lens must be in "A" setting
- (or P setting) or dialed to smallest aperture
- Useful for Sports when action must be frozen

P setting (Program Mode)

- Camera picks a combination of aperture and shutter speed – leaning more toward shutter speed (to prevent camera shake)
- □ Lens must be set in "A" (or P) aperture
- Better to use with "Fast" lenses (f2.0, f2.8 – instead of f4, f5.6)

X setting (Flash Sync)

- This is the fastest speed that your flash and shutter will work in unison
- Above this speed part of your photo will be dark or black

B setting (Bulb)

- This setting keeps your shutter open for as long as you keep your finger on the shutter release
- Best used with a cable release
- Good for nighttime and other long exposures
- Can also be used for multiple exposures when black lens cap covers lens between shots
- Can be combined with flash to "stop motion" and then allow motion blur (traffic at night)

Exposure Compensation

- This is the +2 +1 0 -1 -2 settings (often called EV settings)
- Allows you to "trick" the camera into putting more or less light onto the film
 - Photos in snow camera thinks is too bright so use +1 or +2 stops
 - Photos of performer against black curtain camera thinks is too dark so use -1 or -2 stops

Exposure Compensation – other

- You can also compensate for exposure by
 - Using manual exposure
 - Resetting your ISO film speed indicator (make 200 speed film seem like 100 speed or 400 speed film)
 - Use the "bracketing" feature (camera automatically takes 3 shots, one shot -1 EV, one shot at 0 EV, and one shot at +1 EV

Depth of Field Preview

- Allows you to see "depth of field" for actual shot
- Stops down the lens to shooting setting
- Especially useful in portraits and macro work

Multiple Exposures

- Allows you to take more than one image on the same frame (artistic)
- Some camera have settings, most not
- Alternative method (manual advance)
 - Rewind slack in film and HOLD rewind spool
 - Push in and hold rewind pin
 - Fully advance shutter wind / film advance
 - Take second exposure

Alternative Multiple Exposure

Dark / black room

- Set camera on BULB and keep shutter open
- Fire Flash
- □ Have subject move / change place

Fire Flash again

Close shutter

Camera Manuals

- □ <u>http://www.camerabooks.com/index.html</u>
- http://www.geocities.com/eskoufos/fmm.html
- $\Box \quad \frac{\text{http://www.pentaxusa.com/docstore/index.cfm?show}}{\underline{=6}}$
- □ <u>http://www.canonfd.com/choose.htm</u>
- □ <u>http://www.camera.canon.com.my/photography/art/a</u> <u>rt32/</u>
- <u>http://listings.ebay.com/pool2/plistings/list/all/catego</u> ry29956/index.html?from=R4

Effective Camera Settings

- Consider what you want the final image to look like (look at magazine samples)
- Determine what controls are needed to achieve the "look" of the sample photos
- Try to imitate the image using your different lenses, apertures, and shutter speeds
- Here are some ideas...

Portraits

- Zoom / telephoto
- Large aperture (small f/stop) to blur background
- Options
 - Soft lighting to smooth out skin
 - Softening Filter to smooth out skin
 - or
 - Hard, angular light to bring out 3-D features

Scenery / Landscapes

- □ Medium / wide-angle lens
- □ Small aperture (large f/stop number)
- Hyperfocal distance (maximum depth of field)
- Early morning or late evening (angular light to create 3-D texture)
- Photograph perpendicular to angle of light
- Tripod

Portrait with Scenery

- □ Small aperture (large f/stop number)
- Hyperfocal distance (simplifies focusing)
- For face shot use normal or telephoto lenses
- or
- For full-body use wide-angle to normal lenses

Children

- □ Medium telephoto lens (135mm)
- Medium F-stop & hyperfocal distance (to simplify focusing)
- Prefocus in range (get perpendicular to child's action)
- Get on "their level" (lay on ground)
- Have a helper to attract attention toward camera

Indoor Party

- Medium to long telephoto lens
- Focus on distant subjects
- Get "above" the action (so that subjects don't block your light or angle of view)
- Use flash; if possible "bounce" lighting off low white ceiling
- Use flash mounted on bracket away from camera or hand-hold flash away (to eliminate red-eye)

Floral Close-up

- Macro Mode in lens
- Use foamcore cards as both reflector and wind-break
- Use tripod and cable release
- □ Maximum f/stop (f16, f22)
- Overexpose film by 1-stop for more vibrant color in final prints

Floral Field

- Wide angle lens
- Use tripod and cable release
- □ Maximum f/stop (f16, f22)
- Photograph on hazy / overcast day
- Overexpose film by 1-stop for more vibrant color in final prints
- Shoot from above beds of flowers in near foregrounds

Autumn Leaves

- Best time is shortly after a rain on overcast day (most color saturation is from wet leaves)
- Possibly use a "warming" filter (slight tan) on
- camera lens
- Maximum f/stop (f16, f22)
- Use tripod and cable release
- Overexpose by 1-stop for more vibrant colors in final prints

Flowing Water (smooth look)

- Slow shutter speed (1/8th second to 4 seconds)
- □ Maximum f/stop (f16, f22)
- Possibly use "neutral density" filters (gray – to reduce light hitting film)
- Use tripod and make sure water is "level"
- □ Slow film speed (ISO 100, 64, 32)

Splashing Water

- Use Flash (if splash is near)
 - or
- □ Fast Shutter Speed (1/500th to 1/4000th)
- Prefocus on area of activity
- □ Faster film speed (ISO 200, 400)
- Best photographed with side-light that is perpendicular to camera angle-of-view

Buildings

- Pre-meter off hand/gray card and set in manual
 Glass/steel or white buildings falsely meter as "too light,"
 - Brick or wood buildings falsely meters too dark
- Maximum f/stop (f16, f22)
- Long telephoto to prevent (tipping backwards) keystone imaging
- Tripod and cable release
- Shoot in early morning or late afternoon light

Beaches and Water

- Pre-meter off hand/gray card and set in manual
 - Water reflections and light sand falsely meters too bright
 - Dark rocks and "blue sea" falsely meters too dark
- Use shutter speed to affect motion of the ocean
 - long exposures for "smooth water"
 - very-short exposures for "splash"
- Perhaps a slight "cooling" filter (light blue) to increase color saturation of sky and water

Clouds

- UV Filter and Polarizing Filter to increase sky color saturation
- Best photographed at dawn or dusk (unique colors and angular lighting)
- Set EV/exposure compensation / ISO film speed at one stop increased exposure
- Infinity focus

Sunrise / Sunset

- Warming Filter (red or orange) and Polarizing Filter
- Infinity focus
- Set EV/exposure compensation / ISO film speed at one stop increased exposure
- Perhaps use a graduated neutral density filter (goes from clear to dark gray – gradually) to keep some foreground detail

Night Scene

- Tripod and cable release
- Slow shutter speed
- After / during rainstorm ("mirror-like" reflections in the streets)
- Flash turned off (except if doing a night portrait – and flash used to illuminate person in foreground)

Fireworks

- Telephoto lens
- □ ISO 100 film with f/stop at f5.6 or f8
- Focus at just under infinity
- Tripod and "pre-frame" area where fireworks will explode
- Bulb Exposure keep shutter open for 6 to 7 sets of bursts (10 seconds to 1 minute)

Food

- Wide angle or macro mode (get in close)
- □ ISO 100 film (high quality)
- □ Tripod and cable release
- Selective focus and selective depth of field (limited in Macro mode)
- □ Soft and angular lighting

Jewelry and Small Collections

- Macro mode lens
- ISO 100 film
- Tripod and cable release
- Angular Light slightly softened and also reflector cards or mirrors
- Selective focus and selective depth of field (limited in Macro mode)

Nudes

- Angular light
 - Hard light source brings out muscle tone
 - Soft light source creates "smooth landscapes"
- Normal or Wide Angle lens
 - Creates more exaggerated perspective
- □ Crop in on parts (hand, feet, torso)
- Minimize background distractions









Section 3
Composition and Framing

Compositional tools

- Get in Close
- Rule of thirds
- Geometric Shapes
- Leading Lines and Curves
- Angle of view
- Backgrounds

Get In Close

- □ "Crop" in the camera viewfinder
- Eliminate all but the most essential elements of the scene
- □ Fill the viewfinder with your subject
- Photograph a "part" not the "whole"
- Use a telephoto lens to avoid perspective distortion





Rule of Thirds

- Divide the viewfinder into horizontal and vertical thirds
- Place the main subject along one of the lines
- Stronger composition can be achieved by placing the main subject at the intersection of the horizontal and vertical lines (in a corner)







Geometric Shapes

- Try to establish a geometric shape in the scene.
- The human body lends itself to "triangles" via the body joints
- Repeats of the same shape builds a stronger composition





Leading Lines Crop in close so that the subject touches two borders of the image Use straight or S-curved lines in the composition to help "lead the eye" into and out of the image

Leading lines give images a dynamic feel







PART 3 - Framing

Positioning & Angle of View
Cropping & "tilts"
Lens Selection

Positioning & Angle of View

- □ Vary your angle
 - Overhead

Below

- Side
- □ Incorporate props or scene
- Get "eye-to-eye" with children

Cropping and "tilts"

- □ Cropping to the important elements can be done in-camera, or with photo mats (covering up some of the image)
- Tilting the camera gives a dynamic feel to the image (like the subject is in motion)

Depth of field preview

- □ Some camera have a "depth of field" preview button – which allows you to "preview" the focus of the scene at the current iris/f-stop setting
- □ Like a human eye, the smaller the opening the less light gets through.
- □ A small f-stop (large opening) is "blurry vision" and a high f-stop (small opening) is "squinty & clear" vision.

PART 5 - Lighting

- Lighting Direction
 - Above
 - Side
 - Directional vs.. Even
- Lighting Quality
 - Hard vs.. Soft
- Lighting Proximity
- Close versus Far (fall-off rate)

Lighting Direction

- "Natural" results are for light to be 45degrees above the subject's eyes
- Side lighting gives a more "sculpted" and dramatic look
- Even frontal lighting is best for "smooth skin" (helps reduce appearance or wrinkles and complexion problems)









Lighting Quality For a softer / feminine look – use softened or reflected light Umbrella lighting White gauze over window White foamcore as reflector Overcast Sky For a more muscular/ masculine look – use angular point-source light Bare light bulb

Direct Sun



Angular lighting shows structure through shadows

James Falkofske www.4arts.net Harder vs. Softer Lighting







Lighting Proximity

- The closer the light-source, the more dramatic the "fall off" (difference between dark-side and light side)
- Changing either the main light location or the reflected light location can dramatically alter an image
- Softest portraits have umbrella light and reflector card very close to subject

Far vs.. Near





Lighting direction and quality

- Directional versus
 Flat
- Hard versus Soft
- Near versus Far



"Pre-visioning" images

- Plan out the shot ahead of time
- What factors will determine the "look" of the image you want to create
 - Lens focal length
 - Aperture
 - Shutter speed
- Set your camera for these qualities
- Use LOTS of film and experiment

Web sources for

Portrait Photography

- □ <u>www.popphoto.com</u>
- □ www.photo.net
- □ www.wppinow.com
- □ <u>www.ppa.com</u>
- □ <u>www.shutterbugmag.com</u>
- □ <u>www.apogeephoto.com</u>

Equipment Sources

- □ <u>www.adorama.com</u>
- □ <u>www.bhphotovideo.com</u>
- □ <u>www.cnet.com</u>
- □ <u>www.porters.com</u>
- $\square \underline{www.freestylephoto.biz}$
- □ <u>www.dpreview.com</u>
- □ <u>www.ebay.com</u> auctions