Taking Good Pictures: Part II

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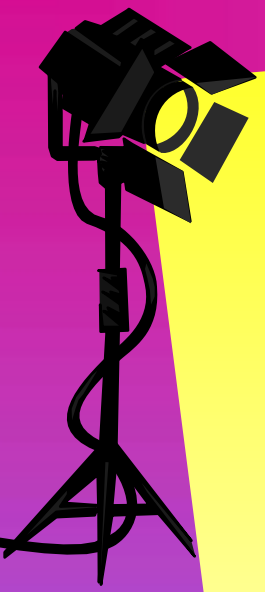


Session Goals

To provide:

- Basic and practical information regarding basic photographic tools
- how to use those tools in order to obtain ***"GOOD"*** pictures

Agenda

- Review of the fundamental elements of good photographs
- Survey of basic photographic tools and how to use them
- Summary

Basic Photograph Concepts

- Photography is painting with light
- A picture has two components:
  - Technical Factors
  - Creative Factors
- A controlled combination of these two components creates an image that captures the appearance and emotions the photographer was trying to express
- **What is a *Good Picture*? *"I cannot describe it but I know it when I see it!" (Justice Potter Stewart)***

Technical Aspects of Good Photography

- Proper Exposure
- Good Lighting
- Good White/Color Balance
- In-Focus
- Image is Sharp
- Minimal Technology “Flaws” (flare, distortion, …)

- Technical factors support the creative elements of photography

Creative Aspects of Good Photography

- Subject
- Background
- Lighting
- Composition
- Perspective
- Action

- The creative elements of a photograph tell “the story” the photographer is capturing

The UNIVERSAL Photographic Constant

- People NOT cameras take pictures
- Cameras are ONLY the tool people use to take pictures
- Good pictures are the result of people controlling how their tools (the camera) work

Basic Photographic Tools

- Lens
- Filters
- Supports
- Light Modifiers & Flash Units

Lens

- Lens Sizes:
  - Normal
  - Wide Angle
  - Telephoto
- Lens Types
  - Zoom
  - Converter
- Specialty
  - Perspective Control
  - Macro
- Lens Makes

The 50mm “Normal Lens”

- The 50mm lens “sees” the world like the human eye does
- Comes with lowest/largest aperture (f1.2, f1.4)
- NO perspective distortion
- GREAT for low light
- Not popular! Can be obtained used at a great price

- Even if you are using a zoom lens; remember the 50mm setting if you want a distortion-free view

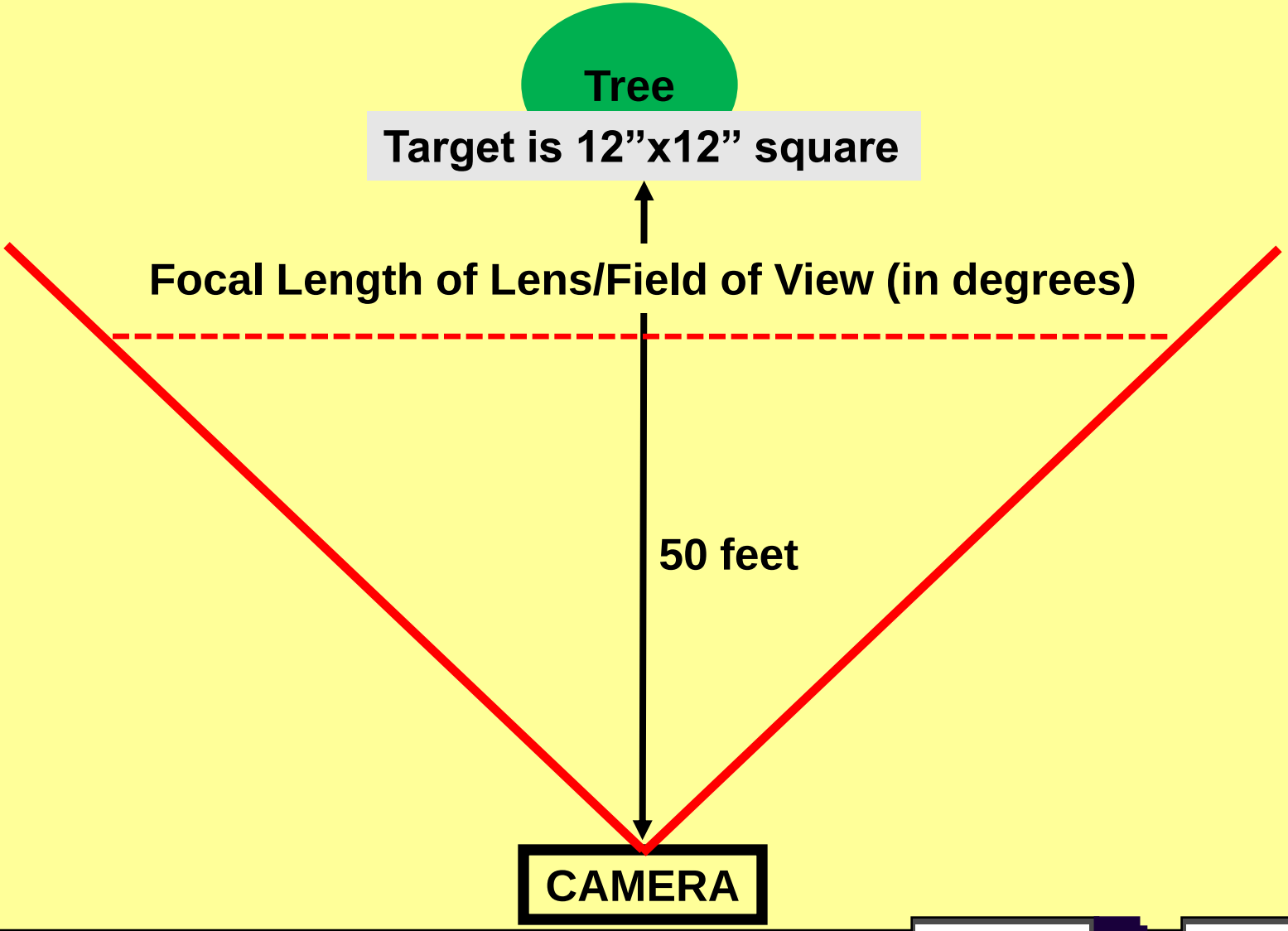
Wide Angle Lens

- Wide Angles are used when you want to “fit more” into the picture
- Wide Angle characteristics
  - Large depth of field
  - Reasonable aperture: f3.5 to f4 (larger aperture is BIG $$$$ + more size & weight)
  - Wide field of view: 54° (35mm) to 93° (17mm)
  - Usually can hand hold
- Wide Angle Ranges:
  - Moderate Wide Angle: 28mm to 35mm (minimal distortion and little perspective exaggeration)
  - Wide Angle: 24mm (some distortion and some perspective exaggeration)
  - Ultra Wide Angle: 17mm to 20mm (moderate distortion and extreme perspective exaggeration)
  - Fish Eye: < 17mm (extreme distortion and extreme perspective exaggeration)

Telephoto Lens

- Telephotos are used when you want to make the subject “bigger” in the picture
- Telephoto characteristics
  - Narrow depth of field
  - Reasonable aperture: f3.5 to f5.6 (larger aperture is BIG $$$$ + more size & weight)
  - “Compresses foreground and background”
  - Narrow field of view: 24° (85mm) to 3.5° (600mm)
  - Hand hold often NOT recommended! (slowest “hand hold” speed is 1/focal length)
- Ranges:
  - Moderate Telephoto: 85mm to 135mm
  - Telephoto: 150mm to 400mm
  - Ultra Telephoto: 500mm and up (usually BIG $$$)
- Telephotos are not a “magic bullet”; magnification of a telephoto is focal length/50 = approximate binocular power (i.e. 400mm lens is equivalent to 8X binoculars)

Focal Length Comparison



Focal Length Comparison

15mm/100.4 ° 20mm/84° 24mm/73.7 ° 28mm/65.5 °

35mm/54.4 ° 50mm/39.6 ° 100mm/20.4 ° 150mm/13.7 °

300mm/6.9 ° 400mm/5.2 ° 500mm/4.1 ° 600mm/3.4 °

Zoom Lens and Teleconverters

- Zoom Lens – a lens that with a variable focal length
  - In the past were not as good as prime lens now of equal quality
  - More versatile and save weight
  - Provide for “recomposing” picture
- Teleconverters – lens attachment that “multiplies” the focal length of the lens attached to
  - Typically 1.4X or 2X
  - Unless designed for the lens in use reduce picture quality
  - Multiplication factor also applies to f-stop

Specialty Lens and Lens Makes

- Specialty Lens
  - Macro Lens – lens optimized and designed for close ups
    - “True” macro lens produce 1-1 image sizes
    - NOT the same a “Macro” Zoom lens
  - Perspective Control Lens – Lens designed to allow control of perspective; primarily for architectural work
- Lens Makes
  - Camera Makers lens typically cost more and have less “range”
  - Sigma, Tokina, and Tamron Lens EVERY bit as good, cost less, and have more “range”
  - Any lens will perform “less well” at the extremes; avoid them for higher quality pictures

Filters

- Variety of shapes, sizes and uses
- Used to modify light in some manner
- Skylight (1B) or UV – used to protect lens as well as reduce haze.
- Polarizing Filter – come on a rotating mount; must be circular polarizing filter to work with AF systems; reduces glare, darken blue in sky for more vivid color
- Colour Temperature Filters – used to cool down or warm the image; 80A, B & C pale blue, 81A, B, C pale orange; can achieve same effect by adjusting white balance
- Fluorescent Filters – used to improve the color cast of fluorescent light; can achieve same effect by adjusting white balance
- Effects Filters – used to create special effects such as star, soft focus, etc.
- ND and Gradient Filters – used to modify the intensity of light

Supports

- Supports are used to assist the photographer in holding the camera steady
- Typical supports are Tripods, Monopods, and Bean Bags
- Tripods:
  - Used to minimize camera shake or to control camera position
  - Great for telephotos, panorama, and long exposure shots
  - Use of a tripod typically causes user to think more about composition of the picture
- Monopods – less stability than a tripod but better than hand held; more mobile
- Beanbags – great for unusual camera positions, snap shots
- Ball head versus pan & tilt head
- Other supports – anything that gives the shooter more stability is a good thing – USE IT!

Tripod Example

Use of tripod allowed a slow shutter speed which resulted in the moving water being blurred yet everything else being in focus

Flash and Light Modifiers

- Flash units add light when needed
  - Not just for indoors or dark conditions; great for fill
  - Can stop motion
  - The more indirect the flash, normally the more natural the lighting
  - The closer the flash's light to the camera lens the greater the change of "red-eye"
  - Built in flash much, much weaker than people realize

- Light Modifiers/Reflectors – devices which reflect light onto the subject in order to modify the available light
  - Increase, warm or cool off light
  - Eliminate shadows
  - Great for "set" shots

Depth of Field

- Depth of field, the range between the closest and furthest distance at which objects appear sharp
  - Varies based on f-stop, focal length of lens and focus distance
  - More DOF the shorter the focal length
  - More DOF the smaller the f-stop (i.e. f 11, f16)
  - More DOF the longer the focus distance
  - Sometimes Autofocus works against DOF
- Hyperfocal distance
  - the distance setting at any aperture that produces the greatest depth of field or
  - The hyperfocal distance is the point of focus where everything from half that distance to infinity falls within the depth of field

Depth of Field Examples

- 20mm @ f5.6 focused at 5’: near focus 2.94’ far focus 16.77’
- 20mm @ f5.6 focused at 10’: near focus 4.14’ far focus infinity
- 20mm @ f11 focused at 5’: near focus 2.10’ far focus infinity

- 50mm @ f5.6 focused at 5’: near focus 4.50’ far focus 5.62’
- 50mm @ f5.6 focused at 10’: near focus 8.17’ far focus 12.88’
- 50mm @ f11 focused at 5’: near focus 4.11’ far focus 6.38’

- 400mm @ f5.6 focused at 5’: near focus 4.99’ far focus 5.01’
- 400mm @ f5.6 focused at 10’: near focus 9.97’ far focus 10.03’
- 400mm @ f11 focused at 50’: near focus 48.36’ far focus 51.76’

Depth of Field Examples

20mm

35mm

50mm

100mm

300mm

600mm

Other Camera Tools

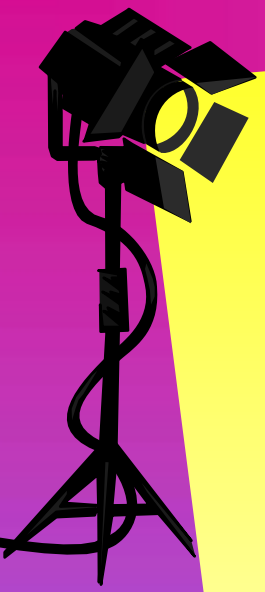
- Camera Bags
- Vests
- Airline Travel
- Miscellaneous

Summary

- The more one understands how to use the tools of photography (cameras, lens, …) the better the results
- Equipment is important but who is using the equipment and how one does so is far more important
- Study pictures you like and how they were taken in order to get ideas for pictures you will take

Closing Comments

- Photography is a skill; practice, critically review your results, learn from your previous photographs, and strive to improve,
- Do not try to do everything at once; learn to do the basics well and then expand to more complex skills
- Learn how to control the camera; know when to NOT use auto features
- Be Creative and experiment; try different subjects
- Take lots of pictures
- Have Fun!



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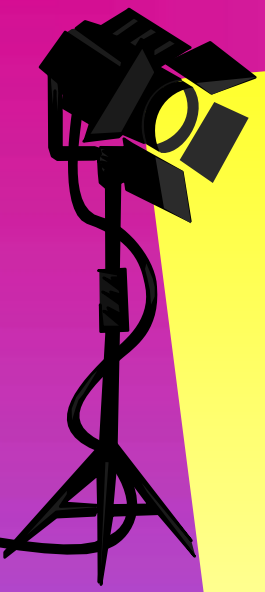

Schedule
(2nd Saturday of every Month)

Date	Description
8-11-07	Digital Camera Picture Taking Part II (more how to get a good digital image)
9-8-07	**NEW Series** **Photoshop Fundamentals** **by Ed Bunyan**