How to Take/Make Better Pictures

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What do I know about good pictures?
• Not much: amateur photographer, mostly wildlife and candid portraits

Photography

Equipment

• Do get an SLR, compacts are way too limited
• Don't worry about brand
• Don't worry about the body, get the cheapest one
• Worry about lenses
  • Zooms are convenient but quality can be a problem
  • Avoid the basic zoom, but the one above is usually fine
  • Maximum aperture matters (the smaller the number, the better)
  • Get a prime in the 35-85mm range
    (cheap, high quality, wide aperture)
    50mm f/1.8 (both Canon & Nikon)
• Get a tripod
• Get an external flash if you want to take “event” pictures
  • And orient towards ceiling
  • Good flash photography is very difficult
• Count ~1k for camera+standard zoom+50mm

Nikon

Tends to be a tad cheaper
• D40 is a great body. D80 is better.
• 18-70
• 55-200 is surprisingly not so bad and super cheap
• Get the 50mm f/1.8
Canon

- Rebel XTi
- 17-85
- 70-200 f/4.0 (amazing lens)
- 50mm f/1.8
- 100mm f/2.8 macro (great also for portraits)
- ... I think that the fall crop of cameras will be a huge step in low-light sensitivity

Other brands

Not as big a range, future not always clear (see Minolta), have been slower to get to digital SLR

- Olympus
  - Good system, but smaller sensor
- Pentax
  - Good entry camera
- Sigma
  - Intriguing sensor (Foveon). One trick pony
- Fuji
  - Used to be one-trick pony (the sensor). I heard the S5 is better
  - Nikon body
- Sony
  - Interesting hybrid, the R1
    - Very silent, good image, crappy viewfinder, no interchangeable lenses
    - Alpha SLR. Range of lenses currently limited
- Konica-Minolta
  - Just announced they stop photography!

How to improve?

Anti-creativity session

- Addressed to those of us who are not talented photographers
- Set of heuristics, issues, that will help you get better photographs. Maybe not great photographs, but better
- If you are talented, good for you. Forget those rules, keep taking good photos.

View it as a vocabulary to talk about pictures

- It’s like wine: you describe taste with lots of poetic and metaphorical words
- It does not matter if they’re meaningful
- It gives you a support to think about it
- If you don’t need it: good for you, ignore what I say

Take pictures, critique your pictures

- And get them critiqued
- Give yourself a theme, constraints
- Look at contests online:
  - http://www.dpchallenge.com/
  - http://www.fredmiranda.com/
- Work with friends, critique
Tips

Technical points

• Know your equipment
  – Shutter speed, aperture, focal length, depth of field
  – Debrief your photos, look at the EXIF metadata
  – See Lecture 2 & Eric Chan’s slides: [link]
• Check your exposure
  – Histogram, blinking highlights
  – Unless you shoot HDR
• Sharpness matters
  – Choose the right shutter speed
  – Use a tripod
  – Image stabilization rocks
  – Focus on the appropriate thing
• Optics matters
  – Use a good lens
  – Put the hood on

42 advice

• Collected from random books,
• Just guideline

• Simplify your picture
  – Pay attention to background
• Do or don’t. No middle ground.
  – When you do an effect, exaggerate. In particular, if you break one of the following heuristics, do it frankly
• Manage dynamic range, fill in shadows

42 Photoshop advice

• Shoot RAW, edit in 16 bits
• Try Layer masks, add in highlights
• Use layers and destructive, flexible
  – Have one copy layer or create masks
  – E.g. copy the luminance, invert it, threshold it, like this
• Crop
  – Avoid centered subject, simplify composition
• Reduce image size, sharpen if necessary
• Manage contrast and highlights
  – Use the curve and layer masks
• HDR local adaptation
• Control colors and white balance
• Manage focus of attention
  – Fill shadows
  – Edge burning, sharpening
• Remove the obvious
  – Clone brush, healing brush
• Miniature effects
  – Remove harsh shadows
  – Red eye
  – Deactivate the healing brush Do it as a separate layer, partial opacity
• Correct perspective distortion
  – Use the perspective crop
• Try red eye removal
• Whatever you say, do or don’t
  – Opener for all previous paper (it’s too easy to exaggerate in digital)
• wash lines in Canvas like this [link]
• Correct focal length
• Improve the sky

Composition

• Find a center of interest
  – Careful with autofocus
• Don’t center everything (e.g. rule of the thirds)
• Change your viewpoint, move your feet!
  – Get close (if you can’t get it good, get it big [John Shaw])
  – Try unusual viewpoints
• Try different focal lengths
  – Telephoto, wide angle
  – Focal length allows you to control the relative size of elements at different depth (moon in particular)
• Careful what you cut off
  – Sweep edges of frame
• Build on lines and curves
  – But careful with near-parallelism
  – Careful with converging perspective
• Include framing elements

Negative space

• The ground defines the negative space
• Usually overlooked
• Fundamental for balance
  – Also for typography
Avoid cluttered background

- Move your feet

Avoid Cluttered Backgrounds
Don’t let a cluttered background overwhelm or obscure your subject. Move around, or lie down, to get a clear shot of your subject without the distractions.

More flexible with telephoto

Isolate using blur (Photoshop, layering)

- But maybe don’t over-do it

Distracting background

Shallow depth of field

From Digital Photographer’s Handbook
Try black and white

- Tons of options in Photoshop
  - Gradient map, saturation, color channels, Lab, channel mixer

Photoshop & matting

Photoshop & inpainting

Simplify: Get close

- Our eyes tend to “zoom” and forget how small the subject is
- or crop (but then you lose resolution)

(On the other hand, this is not the best picture ever)

If you can't make it good, make it tight

Isolate detail (crop)

http://www.fotofinish.com/resources/centers/photo/takingpictures.htm
Rule of the thirds

The rule of thirds is a guideline developed by artists centuries ago. When the subject—or its most important element—is placed near one of the intersection points of an imaginary grid, the viewer’s eye is led through the frame. The result is an aesthetically strong image.

National Geographic Photography field guide

Centered version: not as dynamic

Don’t center, especially for motion

Warning: near-parallelsim

- In particular, keep horizon level
- Use crop with rotation to fix this

Don’t let lines unintentionally throw your photo off balance. When you shoot the horizon or a building, keep the straight lines level—unless you’re shooting at a dramatic, intentional angle.

Try unusual angles

- Do or don’t:
  Either perfectly vertical or at least 30 degrees

Try Unusual Angles

Be bold! Try lining your camera to 45 degrees before snapping a picture. Or instead of snapping it from eye level, kneel down or lie on the ground to get a more interesting shot.

http://www.fotofinish.com/resources/centers/photo/takingpictures.htm

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Correct perspective (perspective crop)
+ you control reflection and perspective independently

Sweep the frame to check for trouble
• Cropped element, distracting object, non-parallel line

Careful with frame edges

Avoid accidental alignment
Avoid Mergers
As you position yourself to avoid a cluttered background, also look out for trees, lamp posts, and other background objects which might merge with your subject in unfortunate ways.

Special effects
• In general, accidental alignments are bad
• But sometimes they are fun

http://www.fotofinish.com/resources/centers/photo/takingpictures.htm
Recap: composition

- Simplify
- Pay attention to negative spaces
  - Accidental alignments
  - Cluttered background
  - Sweep the edges of your frame
- Manage depth of field
- Avoid centering
  - Rule of the thirds
- Do or don’t

Light & color

- Avoid harsh light…
  - unless you want to play with shadows
    - Do or don’t
- Sunrise & sunset are best
- Avoid direct flash
- Cloudy days are great as long as the sky is not in the picture
- For sunny days, shade areas are best

Try black and white
  - It’s cool
  - It might address confusing/messy colors

Add fill-in

- Use flash contours

Don’t get married on a sunny day!
Portraits

- Exploit shallow depth of field
- Make sure the face is illuminated (flash, post-process with Photoshop)
- Focus on the eyes
- Shoot at eye level (unless you want a dramatic effect)
- Be patient, work with your subject, take lots of pictures
- Don’t ask people to look at the camera
- Ask your subject to do something silly to relax them. Take the picture afterwards.
Shoot at eye level

• Get low!

Shoot at eye level

• Important for small animals and kids

Better

Not good

Eye level

Not quite eye level

eye level

Or don't

From Digital Photographer’s Handbook

Enhancing and Brightening Eyes

From Corrective Lighting and Posing
Glasses highlight

- Clone brush

Trick #1: diffuser

Make-up

- Scars, monsters, etc.
- “Creative” make-up
  - Fancy!
- Corrective make-up
  - Hide wrinkles, etc.
  - Balance the face
  - Not limited to the face!
- Make-up for pictures
  - Avoid highlights

Shading and highlighting
Corrective Make Up

- Depending on the shape of the face

An example

Lighting

- E.g. 3-point lighting
  - Reduce dynamic range
  - Emphasize silhouettes → 3D cues

- Goals of lighting:
  - Manage dynamic range
  - Reveal shape, layout, material
  - Tell story

Portrait lighting

Lighting toys

Hair lighting

From Corrective Lighting and Posing
Lighting & nose

From Corrective Lighting andPosing

child

From Photographing People, Portrait, Fashion, Glamour

susan

From Photographing People, Portrait, Fashion, Glamour

niña detrás de la ventana

From Photographing People, Portrait, Fashion, Glamour

smile

From Photographing People, Portrait, Fashion, Glamour

chinese hair

From Photographing People, Portrait, Fashion, Glamour
Hardcore Photoshop for portrait

• View before/after
Touch-up: stretch and arm

References

Photoshop refs

- http://www.fotofinish.com/resources/centers/phototakingpictures.htm
- Fun interactive demo:
- http://photography.about.com/library/weekly/a080502r.htm
- http://luminous-landscape.com/essays/books-12-03.shtml
**DVD recommendation**

- Visions of light
- Scorsese

**Photo books**

**Photoshop**

**Art, science & depiction**

- Self-promotion:  
  - [http://people.csail.mit.edu/fredo/ArtAndScienceOfDepiction/](http://people.csail.mit.edu/fredo/ArtAndScienceOfDepiction/)  
  - [http://people.csail.mit.edu/fredo/SIG02_ArtScience/](http://people.csail.mit.edu/fredo/SIG02_ArtScience/)

**Cool retouching**

- [http://medialit.med.sc.edu/aniston.htm](http://medialit.med.sc.edu/aniston.htm)
- [http://www.eonline.com/News/Items/0,1,12006,00.html](http://www.eonline.com/News/Items/0,1,12006,00.html)
- [http://medialit.med.sc.edu/isbmag.htm](http://medialit.med.sc.edu/isbmag.htm)
- [http://www.glennferon.com/portfolio1/](http://www.glennferon.com/portfolio1/)
- Go to Portfolio, click Agree, then click Before/After.

**Ethical issues in retoucing**