How to Take/Make Better Pictures

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Final projects
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.
What do I know about good pictures?

- Not much: amateur photographer, mostly wildlife
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
42 advice

• Just guideline

• Simplify your picture
  – Pay attention to background

• Manage dynamic range, fill in shadows

• 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
Negative space

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

picture  figure  negative space
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 at your subject without the distractions.

* A cluttered background can obscure your main subject
* Reposition your subject or yourself
Distracting background
Shallow depth of field
When depth of field can help

• or not
Isolate using blur (Photoshop, layering)

- But maybe don’t over-do it
Problem...

**Background distractions**
In the chaos of a young child’s room, it is neither possible nor desirable to remove all the distractions, but toning them down would help to emphasize the main subject.

- Bronica SQ-A with 40 mm lens. ISO 64 film. Heidelberg Saphir II scanner.

...solution

**Desaturated background**
Applying Desaturate to the background, turning all the colors into gray has helped separate the girl from the numerous objects surrounding her. A large, soft-edged Brush tool was chosen and the printing mode was set to desaturation at 100 percent.
Photoshop & matting

**figure 7.17** BEFORE

**figure 7.18** AFTER
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)

http://www.fotofinish.com/resources CENTERS PHOTO TAKINGPICTURES.HTM
If you can't make it good, make it tight
Isolate detail (crop)
Question?

• Recap: avoid distracting background
• simplify, get close
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 intersecting points of an imaginary grid, the viewer’s eye is led through the frame. The result is an aesthetically strong image.
Quaking Aspen Grove, Colorado.

Nikon F5, Nikon 300mm lens + 2X teleconverter, Fuji Velvia.
Centered version: not as dynamic
Don’t center, especially for motion
Question

• Recap:
  – avoid distracting background
  – simplify, get close
  – avoid centering subject
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.

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

• Do or don't:
  Either perfectly vertical or at least 30 degrees

Try Unusual Angles
Be bold! Try turning 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
Correct perspective (perspective crop)

+ you control reflection and perspective independently
Question

• Recap:
  – avoid distracting background
  – simplify, get close
  – avoid centering subject
  – Careful with alignment
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
• Don't get married on a sunny day!
Add fill-in

• but set to -2EV

Use flash outdoors

Bright sun can create unattractive deep facial shadows. Eliminate the shadows by using your flash to lighten the face. When taking people pictures on sunny days, turn your flash on. You may have a choice of fill-flash mode or full-flash mode. If the person is within five feet, use the fill-flash mode; beyond five feet, the full-power mode may be required. With a digital camera, use the picture display panel to review the results.

On cloudy days, use the camera’s fill-flash mode if it has one. The flash will brighten up people’s faces and make them stand out. Also take a picture without the flash, because the soft light of overcast days sometimes gives quite pleasing results by itself.

Learn more about composing people pictures

Illustrated here are the lighting effects produced by direct, wall bounce, ceiling bounce, and off-camera direct flash. The location and quality of the subject's shadow changes, depending on the flash technique used. Direct flash, although sometimes necessary, produces a harsh image. Bounce flash produces softer light and softer shadows. Wall-bounce flash is similar to ceiling bounce flash with the added benefit of better revealing the subject's shape.

Direct, on-camera flash is harsh and unflattering. Removing the flash from the camera, or bouncing the flash light from a nearby surface produces different effects. Light bounced from a ceiling, although commonly used, causes dark shadows in the eye sockets and under the nose and chin. The most successful technique indoors is to bounce light from a nearby light-colored wall.
Add fill in light on faces: Photoshop
Add fill in light on faces
Landscape: HDR & Tone mapping
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

• HDR, tone map

Try black and white
  It’s cool

It might address confusing/messy colors
Equipment
Equipment

- Do get an SLR, compacts are way too limited
- Don't worry about brand (with a bias for Nikon/Canon)
- 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 great
    - Avoid large range (e.g. 18-200)
    - 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
- Get a tripod
- Get an external flash if you want to take “event” pictures
  - And orient towards (white) wall/ceiling
  - Good flash photography is very difficult
- Count ~1k for camera+standard zoom+50mm
Nikon

Tends to be a tad cheaper
• D60 is a great body.
• 18-70
• 55-200 is surprisingly not so bad and super cheap
• Get the 50mm f/1.8
Canon

- Rebel Xsi
- 17-85
- 70-200 f/4.0 (amazing lens)
- 50mm f/1.8
- 100mm f/2.8 macro (great also for portraits)
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), limited system

• Fuji
  – One-trick pony (the sensor)
  – Nikon body

• Sony
  – Interesting hybrid, the R1
  – Very silent, good images, crappy viewfinder, no interchangeable lenses
  – New SLR, alpha. Pretty good.
  – Lens selection not as good as Nikon/Canon
Shooting

- Use aperture priority, work on depth of field
- Change your viewpoint
- Don't center things
- Pay attention to background
- Learn to adjust ISO

- Shoot raw
- Check your histogram
Software

- Photo management + lightweight editing
  - Lightroom, Aperture, Lightzone

- Crop to improve composition
- Manage contrast using curve and adjustment layers
- Add light to dark areas
- Sharpen a bit
- Convert to black and white

- Use Photoshop only if you really need to
Portraits: dirty tricks
Trick #1: diffuser

- Digital version: blur or surface blur

Diffusion

I hate to say “always,” but 98% of the time we diffuse each portrait that is taken. Since we are working with subjects who are at an age when skin clarity can be a problem, we recognize that their complexion can’t handle the clarity of today’s lenses. We use the Glamour Softs by Sailwind (#1). It softens the portrait without losing the critical sharpness in the eyes. I like to use a drop-in filter for easy focusing, especially as I get older.

From Corrective Lighting and Posing
Shading and highlighting
Corrective Make Up

- Depending on the shape of the face

Snapshot-Perspective-Speed, aperture-Filter-Lighting-Processing & Print-Make up-Retouching
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

Main light
Fill-in light
Accent light
Background light
Lighting toys

glossary of lighting terms

Lighting, like any other craft, has its own jargon and slang. Unfortunately, the different terms are not very well standardized. Often the same object may be described in two or more ways or the same word used to mean two or more different things. For example, sheen card, wood, metal or other material that is used to control reflections or shadows may be called a flag, a French flag, a donkey or a gobo — though some people would reserve the term “gobo” for a flag with holes in it, which is also known as a cookie. In this book, we have tried to standardize terms as far as possible. For clarity, a glossary is given below, and the preferred terms used in this book are asterisked (*).

**Acetate**
see Gel

**Acrylic sheeting**
Hard, shiny plastic sheeting, usually methyl methacrylate, used as a diffuser (“opal”) or in a range of colours as a background.

**Barn doors**
Adjustable flaps affixed to a lighting head that allow the light to be shaded from a particular part of the subject.

**Boom**
Extension arm allowing a light to be cantilevered out over a subject.

**Bounce**
A passive reflector, typically white but also, for example, silver or gold, from which light is bounced back onto the subject. Also used in the compound term “black bounce”, meaning a flag used to absorb light rather than to cast a shadow.

**Continuous lighting**
What its name suggests: light that shines continuously instead of being a brief flash.

**Contrast**
see Lighting ratio

**Cookie**
see Gobo

**Diffuser**
Translucent material used to diffuse light. Includes tracing paper, scrim, umbrellas and translucent plastics such as Perspex and Plexiglas.

**Effects light**
Neither key nor fill: a small light, usually a spot, used to light a particular part of the subject. A hair light on a model is an example of an effects (or “FX”) light.

**Fill**
Extra lights, either from a separate head or from a reflector, which “fills” the shadows and lowers the lighting ratio.

**Fishy**
A small soft box.

**Flag**
A rigid sheet of metal, board, foam-core or other material used to absorb light or to create a shadow. Many are painted black on one side and white (or brushed silver) on the other, so they can be used either as flags or as reflectors.

**Flat**
A large bounce, often made of a trick sheet of expanded polystyrene or foam-core (for lightness).

**Foil**
see Gel French flag

**Frost**
see Diffuser

**Gel**
Transparent or (more rarely) translucent material used to modify the colour of a light. It is an abbreviation of “gelatin filter”, though most modern “gels” are acetate.

**Gobo**
As used in this book, synonymous with “cookie”: a flag with cut-outs in it, to cast interestingly-shaped shadows. Also used in projection spots.

**Honeycomb**
Grid of open-faced hexagonal cells, so-called because it closely resembles a honeycomb. This increases the directional light from any head.

**Inky dinky**
Small tangerine spot.

**Key**
see Key light

**Key light**
The dominant or principal light, the light which casts the shadows.

**Kill Spill**
A large flag that is used to block spill.

**Light**
A light source, whether continuous or flash. A “standard head” comes fitted with a plain reflector.

**Lighting ratio**
The ratio of the key to the fill, as measured with an incident light meter. A high lighting ratio (8:1 or above) is very contrasty, especially in colour, a low lighting ratio (1:4 or less) is flatter or softer. A 1:1 lighting ratio is completely even, all over the subject.

**Mirror**
Reflectors are made of mirrors, because mirrors create “hot spots” while reflectors diffuse light.

**Mix and match**
Mix and match your own lighting set-up.

**Mouthlight**
see Soft box

**Perspex**
A brand name for acrylic sheeting.

**Pixilamp**
A brand name for acrylic sheeting.

**Projection spot**
Flash or tangerine head with projection optics for casting a clear image of a gobo or cookie. Used to create textured lighting.

**Soot**
see Soot

**Soft box**
Large, off-white light source made by strapping a light through a soft layer of diffuser. Soft boxes come in a variety of designs and sizes, from about 30cm by 30cm to 120cm by 120cm and larger.

**Soft light**
Light that ends up softer than the subject at which it is pointed. Soft may be used to provide fill light from the background or to control glare. It may be controlled with flags, barn doors or gobos.

**Stock**
A common term for a standard stock light.

**Strip or strip light**
Lighting head that is a strip of light, such as a flash or a strip light.

**String**
Electronic flash, typically a strobe.

**Tackle**
see Universal mount

**Tungsten**
see Universal mount

**Universal mount**
See Universal mount.

**Cookieed**
A cookie is mounted on a Universal mount.

**Universal mount**
A ‘cookie’ mount, which can be attached to a lighting head through a Universal mount.

**Soot**
Conical reflector, filling over a lighting head. The light can be fitted with a ‘soot’ to diffuse the light.
Hair lighting

The number one complaint from clients with dark hair is how, in many previous portraits, they seemed to blend into the background (A). With all clients who have hair (not bald), we typically use a strip light overhead to add soft separation to the head and shoulders. For someone with long hair like this, we add two accent lights with barndoors at a 45-degree angle, and a final light is placed directly behind the subject’s head. This light is angled back through the hair toward the camera (we call it a halo light). This can cause stray hairs to become very visible (B). In Image C, stray hairs have been reduced by reducing the intensity of the halo light. Sometimes this isn’t enough, and we eliminate the halo light (D).

From Corrective Lighting and Posing
Lighting & nose

Butterfly lighting can reduce the apparent size of the subject’s nose.

From Corrective Lighting and Posing
child
photographer Dolores Porredon

The face, the pose, the colours: all are reminiscent of a Victorian chromolithograph. The effect is achieved in large measure by careful control of the lighting ratio, while retaining as much chiaroscuro as possible.

key points
- Catchlights in the eyes are not essential, but sometimes a picture that is lacking them will look curiously dead.
- Traditional portraitists touched out all but a single catchlight. Today, multiple catchlights are acceptable if they are not too obtrusive.

The key is a snooted spot to camera left, fairly close to the child’s face and very slightly backlighting her. Opposite this, to camera right, is a 60x90cm (2x3ft) soft box. This is set to give quite a close lighting ratio, but because it is diffuse and the key light is highly directional, the impression of modelling is very clear: modelling is all the more clear, of course, because of the very careful angling of these two lights.

A white reflector to camera left, just out of shot, provides a little more fill to the front of the face but also creates the catchlights in the eyes. They would not be there otherwise: the key is a back light, and the fill is shaded from both eyes.
susan
photographer Massimo Robecchi

This picture well illustrates that an overcast day can be vastly superior to sunshine, especially if you are shooting in monochrome. With light coming more or less evenly from all directions, the tonality can be exquisite.

key points

- Exposure is a subjective art: arguably, everything in this picture is just a tiny bit darker than it "really" is, but this holds the tones in the white clothing.

- A 300mm lens, used wide open at f/2.8, allows the background to be subtly suggested rather than too clearly delineated.

Even so, Massimo Robecchi added a white bounce in front of the model to even out the light still further: the white drop of the table-cloth is thereby brought nearer to the tone of the clothes and the background, and the dark stockings are made to read just a little better. This is one of those cases where a collapsible reflector such as a Lastolite or a Scrim Jim can be extremely useful - and where the effect is completely different from fill-flash, touted by camera manufacturers as the answer to everything.
niña detrás de la ventana

photographer Dolors Porredon

A perfect moment, captured by chance – or careful planning? The latter, of course. The window is part of a built set, transilluminated with a 100x100cm (40x40in) soft box, supplemented only by a white bounce to camera left.

key points

► Soft yet directional lighting is often very effective with children

► Flash is usually best for children, as they may screw up their eyes against tungsten lighting

► Some photographers believe that flash can damage the eyes of young children, but there is absolutely no evidence to support this: it seems to be an old wives’ tale

Although this was designed for a poster, the same techniques (and forethought, and organization) could equally be applied to a picture for less public consumption. Window sets are not particularly hard to build, a selection of hats can be kept at hand; the rest of the clothing is hardly elaborate, though the light colour emphasizes purity and innocence; and the lighting is elegantly simple. It is true that, often, surprisingly complex lighting set-ups are used to mimic simplicity; but it is also true that a simple lighting set-up can (if it is well executed) be remarkably effective. Diffuse light generally works very well with children, emphasizing the delicacy of their skin texture and the roundness of their features: "character" lighting is considerably more difficult before the features have reached their adult lineaments.
smile
photographer Jeff Manzetti

A large assortment of lights contribute to the dazzling look of this beautiful cover shot.

The dazzling smile and gleaming complexion are shown to good advantage as they are bathed in an even spread of light emanating from a virtual wall of light in the form of a series of umbrellas arranged in an arc behind and around the photographer. These all shoot through a curtain of diffusion material, softening and evening the effect on the subject. In addition to this is a key light, a daylight-balanced HMI to camera right, which is the only direct light on the model. It is positioned just high enough to give a gentle amount of modelling below the chin.

On the background are four more umbrellas, one pair on either side. The resulting lightness and evenness of a large part of the final image makes a good background against which the necessary cover text can ‘read’ clearly. A very mottled or light-and-dark image makes it difficult for text to show up well, and this is always a major consideration for a cover shot.

key points
- The purpose of a shot will dictate aspects of the look and technique
- Using just a restricted range of saturated colours against a predominantly light or pale background can create a very strong impact
chinese hair
photographer Frank Wartenberg

There is no shortage of lighting equipment here. Frank Wartenberg has assembled an impressive array of soft boxes and silver styro reflectors, above, below and around the camera.

The main light is a large soft box (used with the modelling light only) positioned behind the camera. Six smaller soft boxes are arranged on either side and below this, again using only the tungsten modelling light. These combine to give an even sheet of light across the subject.

On both sides is a selection of silver reflectors, effectively forming a wall to either side. The resulting bright and even background provides a foil against which the strands of the model's hair, tousled by a wind machine, stand out in stark silhouette.

key points
- Modelling lights are normally tungsten, so bear this in mind when balancing sources
- Silver reflectors will produce more focussed light than white reflectors

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

- View before/after
Step Six:
To keep from simply painting in a blurry version of our photo, go up to the Options bar and change the History Brush's Blend Mode to Lighten. Now when you paint, it affects only the pixels that are darker than the blurred state. Ahhh, do you see where this is going? Now, you can take the History Brush and paint over the acne areas, and as you paint, you'll see them diminish quite a bit (as shown below). If they diminish too much, and the person looks "too clean," press Command-Z (PC: Control-Z) to undo your History Brush strokes, then go up to the Options bar and lower the Opacity of the brush to 50% and try again.
Chapter 9  Portrait Retouching

figure 9.47  BEFORE

figure 9.48  AFTER
**Step Three:**
Press the Left/Right Bracket keys on your keyboard to adjust the brush size until it's about the size of the person's cheek. Place the brush near the corner of the mouth (as shown here), click and "tug" slightly up. This tugging of the cheek makes the corner of the mouth turn up, creating a smile.

**Step Four:**
Repeat the "tug" on the opposite side of the mouth, using the already tugged side as a visual guide as to how far to tug. Be careful not to tug too far, or you'll turn your subject into the Joker from *Batman Returns*. Click OK in Liquify to apply the change, and the retouch is applied to your photo (as shown).
Step Four:
Press Command-T (PC: Control-T) to bring up the Free Transform bounding box. Hold Shift-Option-Command (PC: Shift-Alt-Control); then, grab the upper-right corner point of the bounding box and drag inward to add a perspective effect to the nose. Doing this gives the person a pug nose, but you fix that in the next step.

Step Five:
To get rid of the “pug-nose” effect, release all the keys, then grab the top-center point (as shown) and drag straight downward to make the nose look natural again, but now it’s smaller. When the new size looks about right, press Return (PC: Enter) to lock in your changes. If any of the old nose peeks out from behind the new nose, click on the Background layer and use the Clone Stamp tool to clone away those areas: Sample an area next to the nose, and then paint (clone) right over it. Below, see the difference our 30-second retouch made in the image.
Hardcore Photoshop for portrait

figure 9.35  BEFORE

figure 9.36  AFTER
Selecting the entire left side of the image avoids potential artifacts.

Dragging a Free Transform handle to narrow the selected area.

The Liquify filter's Warp tool pushes pixels forward as you drag.
Step Three:
Get the Push Left tool from the Toolbar (as shown here). It was called the Shift Pixels tool in Photoshop 6 and 7, but Adobe realized that you were getting used to the name, so they changed it, just to keep you off balance.

Step Four:
Choose a relatively small brush size (like the one shown here) using the Brush Size field near the top-right of the Liquify dialog. With it, paint a downward stroke starting just above and outside the love handle and continuing downward. The pixels shift back in toward the body, removing the love handle as you paint. (Note: If you need to remove love handles on the left side of the body, paint upward rather than downward. Why? That's just the way it works.) When you click OK, the love handle repair is complete.
Touch-up: stretch and arm
Untooning

- [http://pixeloo.blogspot.com/2008/04/jessica-rabbit-process.html](http://pixeloo.blogspot.com/2008/04/jessica-rabbit-process.html)
- [http://pixeloo.blogspot.com/2008/03/homer-simpson-untooned.html](http://pixeloo.blogspot.com/2008/03/homer-simpson-untooned.html)
- [http://pixeloo.blogspot.com/2008/04/jessica-rabbit-untooned.html](http://pixeloo.blogspot.com/2008/04/jessica-rabbit-untooned.html)
• Pascal Dangin [http://www.newyorker.com/reporting/2008/05/12/080512fa_fact_collins](http://www.newyorker.com/reporting/2008/05/12/080512fa_fact_collins)

• My favorite quote: “There is no photographic establishment of any note that does not employ artists at high salaries—we understand not less than £1 a day—in touching, and colouring, and finishing from nature those portraits for which the camera may be said to have laid the foundation,” Lady Elizabeth Eastlake, the art historian and critic, noted in an essay in 1857.


Old tampering
Detection
References
- http://www.fotofinish.com/resources/centers/photo/takingpictures.htm
- http://photography.about.com/library/weekly/aa080502e.htm
- http://luminous-landscape.com/essays/books-12-03.shtml
Photoshop refs

• http://www.luminous-landscape.com/tutorials/instant_photoshop.shtml
DVD recommendation

- Visions of light
- Scorsese
Photo books

[Images of various photo books]
Photoshop
Art, science & depiction

- Self-promotion:
  - http://people.csail.mit.edu/fredo/ArtAndScienceOfDepiction/
  - 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