



Tonight's Discussion

- Elements of a good photograph
- Sources of light
- Measuring and exposing for light
- Tools of the trade
- Emerging and future technology



Elements of a Good Photograph

- Technical
- Composition
- Impact
- Artistic Merit?



Elements: Technical

- Good light, well exposed
- Image is sharp and in focus
- "F8 and be there." *Patrick Morrow*

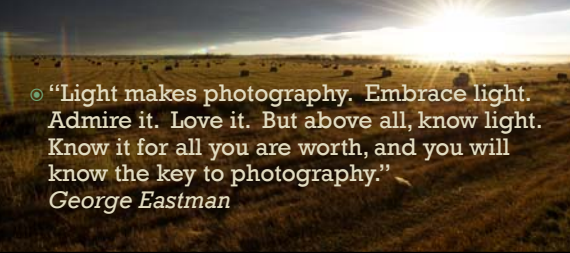


Elements: Composition




- How does light support the composition?
- There are no rules for good photographs, only good photographs. *Ansel Adams*

Elements: Impact



- Most "WOW" images capture our attention with dramatic lighting
- "Light makes photography. Embrace light. Admire it. Love it. But above all, know light. Know it for all you are worth, and you will know the key to photography." *George Eastman*

Elements: Artistic Impression



- If we toss all the technical rules, what's left but light?
- Light contributes to telling your story
- "Could a greater miracle take place than for us to see through each other's eyes for an instant?" *Henry David Thoreau*

Measuring: Plumbing

- Imagine we're filling Lake Minnewanka
- Ideal exposure will *completely* fill the reservoir without it overflowing.
- Three things influence the fill:
 - Length of time the tap is open
 - Size of the tap
 - Water pressure

Measuring: Exposure

- Exposure:** ISO determines how much light the sensor requires
- Time:** the length of time your shutter remains open
- Size of the tap: the diameter of the



Applying the Measure

- Five main modes on modern cameras:
 - Auto
 - Program
 - Aperture priority
 - Shutter priority
 - Manual



Sources of Light

- Indoor lighting (good... sometimes)
- Electronic flash (better)
- The sun (best)

A FedEx airplane is shown in flight against a bright, hazy sky. The plane is white with a purple tail and has the FedEx logo on the fuselage and tail.


Qualities of Light

- Two qualities of light:
 - Strength or brightness
 - Temperature or colour
 - We are focusing on strength

A bright lightning bolt strikes a city at night, illuminating the dark sky and the city lights below.

Qualities of the Source

- Size matters
- Distance
- Direction
- Diffusion

A bright sun is shining through a layer of clouds, creating a lens flare effect. The sun is positioned behind a mountain range, and the foreground shows a dark, rocky landscape.







Measuring: Capture!

- Balancing act:
 - Shutter controls time: blur
 - Aperture: sharpness, depth, star patterns
 - ISO: room to adjust Aperture/Shutter, grain



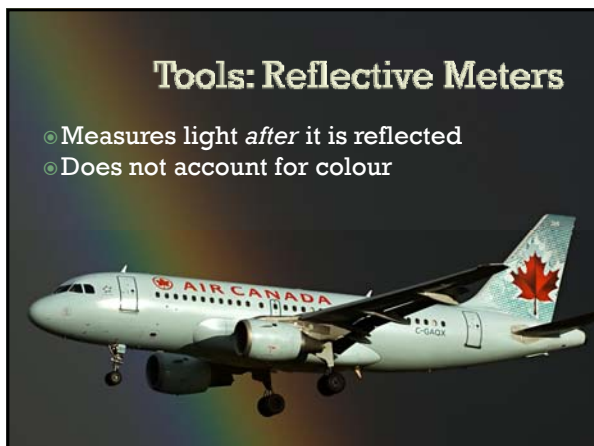
Tools: Meters

- Two main types of meter:
 - Reflective meters
 - Incidence meters
- Really, there are three:
 - YOU!



Tools: Reflective Meters

- Measures light *after* it is reflected
- Does not account for colour



Tools: Incidence Meters

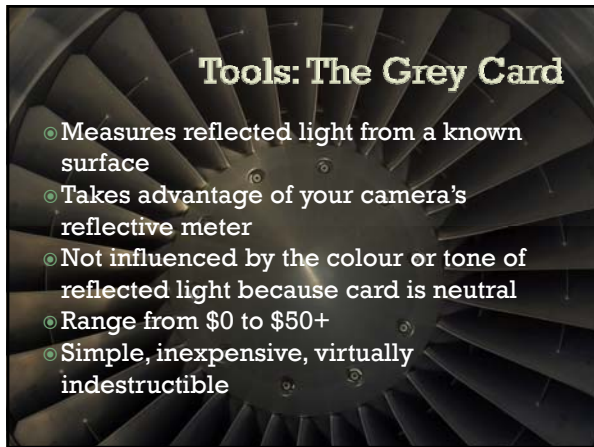
- Measure the *source* of light
- Much more accurate than reflective meters
- Not influenced by the colour or tone of reflected light
- Range from \$50 to \$700+



The image shows two types of incidence meters: a classic analog one with a white dome and a modern digital one with a screen. To the right is a line drawing of a person holding a meter, with a sun icon and light rays indicating it measures light from the source.

Tools: The Grey Card

- Measures reflected light from a known surface
- Takes advantage of your camera's reflective meter
- Not influenced by the colour or tone of reflected light because card is neutral
- Range from \$0 to \$50+
- Simple, inexpensive, virtually indestructible



The image shows a grey card placed in front of a large, dark fan, demonstrating its use as a neutral reference surface for light measurement.

Tools: YOU!

- Sunny 16 rule
- Bracketing
- LCD Highlights tool
- Experience
 - EV
- "Light meters read, photographers interpret." *Catherine Jo Morgan*

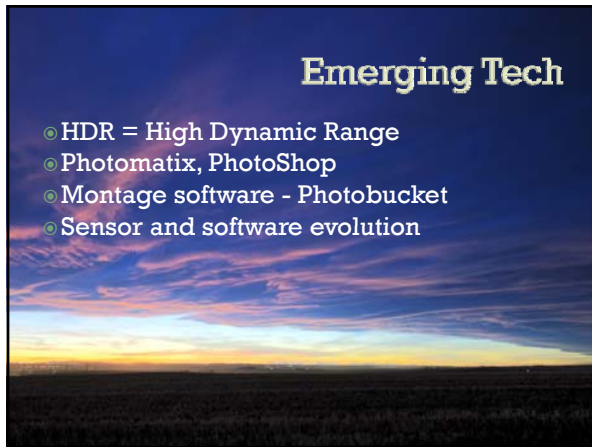


The image shows a fighter jet flying over a rugged, rocky landscape, illustrating the application of exposure rules in a real-world scenario.



Tools: YOU!

- Tricky situations:
 - Specular highlights (sailing)
 - Fireworks
 - Northern lights
 - Rapidly changing light



Emerging Tech

- HDR = High Dynamic Range
- Photomatix, PhotoShop
- Montage software - Photobucket
- Sensor and software evolution



Getting Involved

- Foothills Camera Club
 - <http://foothillscameraclub.ab.ca/>
- Calgary Institute for Photography
 - <http://www.cifp-online.com/>
- Exposure
 - <http://www.exposurecalgarybanff.com/>
- SAIT
 - <http://www.sait.ca> Programs & Courses, Continuing Education, Photography

Further Reading

- Ansel Adams: *The Camera, The Negative, The Print, Examples*
- Hunter/Biver/Fuqua: *Light: Colour and Science*
- Anything written by Freeman Patterson
- George Webber's black and white books
- Daryl Benson's colour books on Alberta and Canada

Further Surfing

- Luminous Landscape
 - <http://www.luminous-landscape.com/>
- Nikonians
 - <http://www.nikonians.org/>
- Nikon Café
 - <http://www.nikoncafe.com/vforums/>
- Canon Digital Photography
 - <http://photography-on-the.net/forum/>
- Digital Photography Review
 - <http://www.dpreview.com/>

A Final Thought

I almost never set out to photograph a landscape, nor do I think of my camera as a means of recording a mountain or animal unless I absolutely need a 'record shot.' My first thought is always of light.
Galen Rowell

