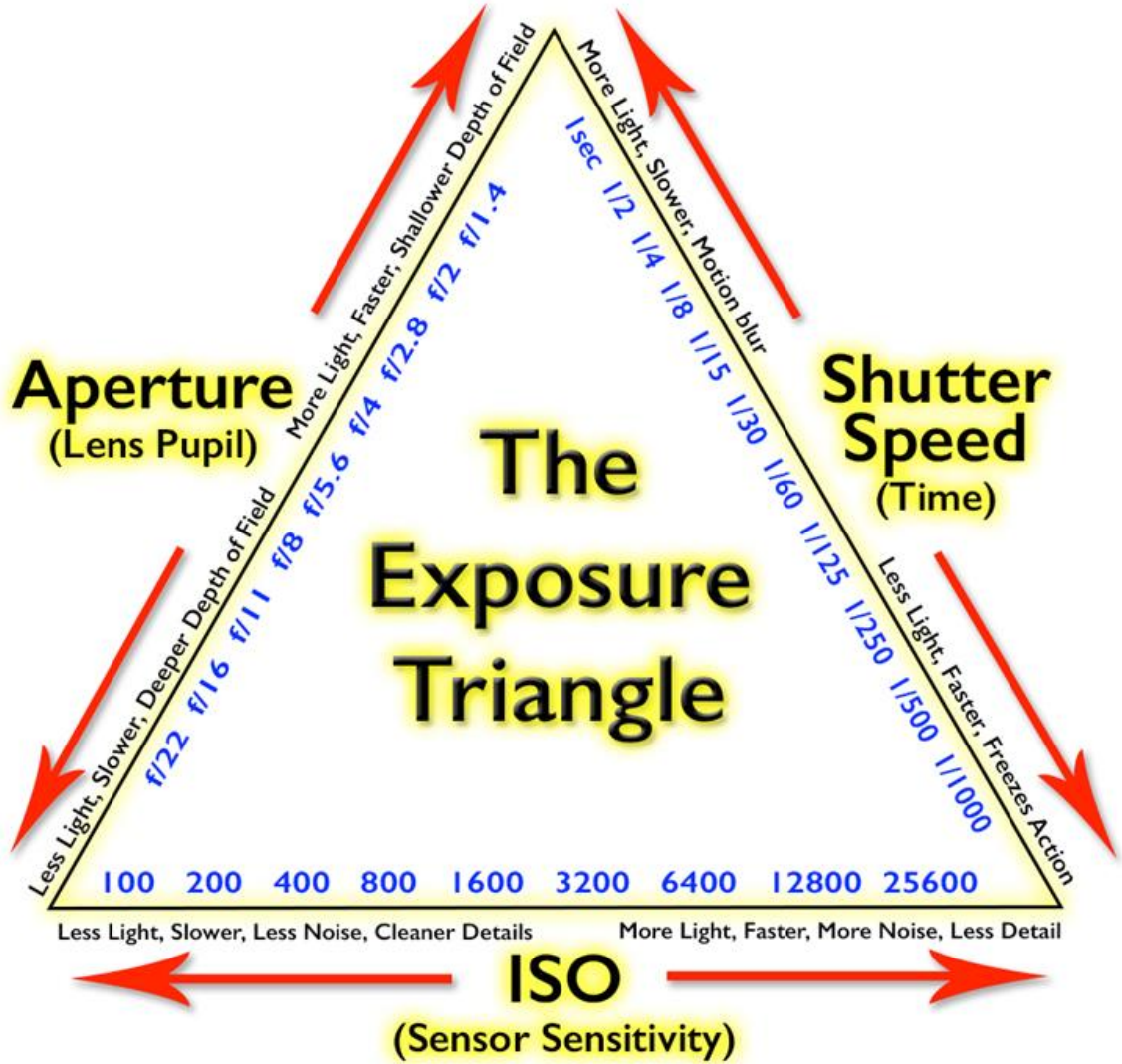
Exposure Control

Using light meter to control the amount of light allowed into camera

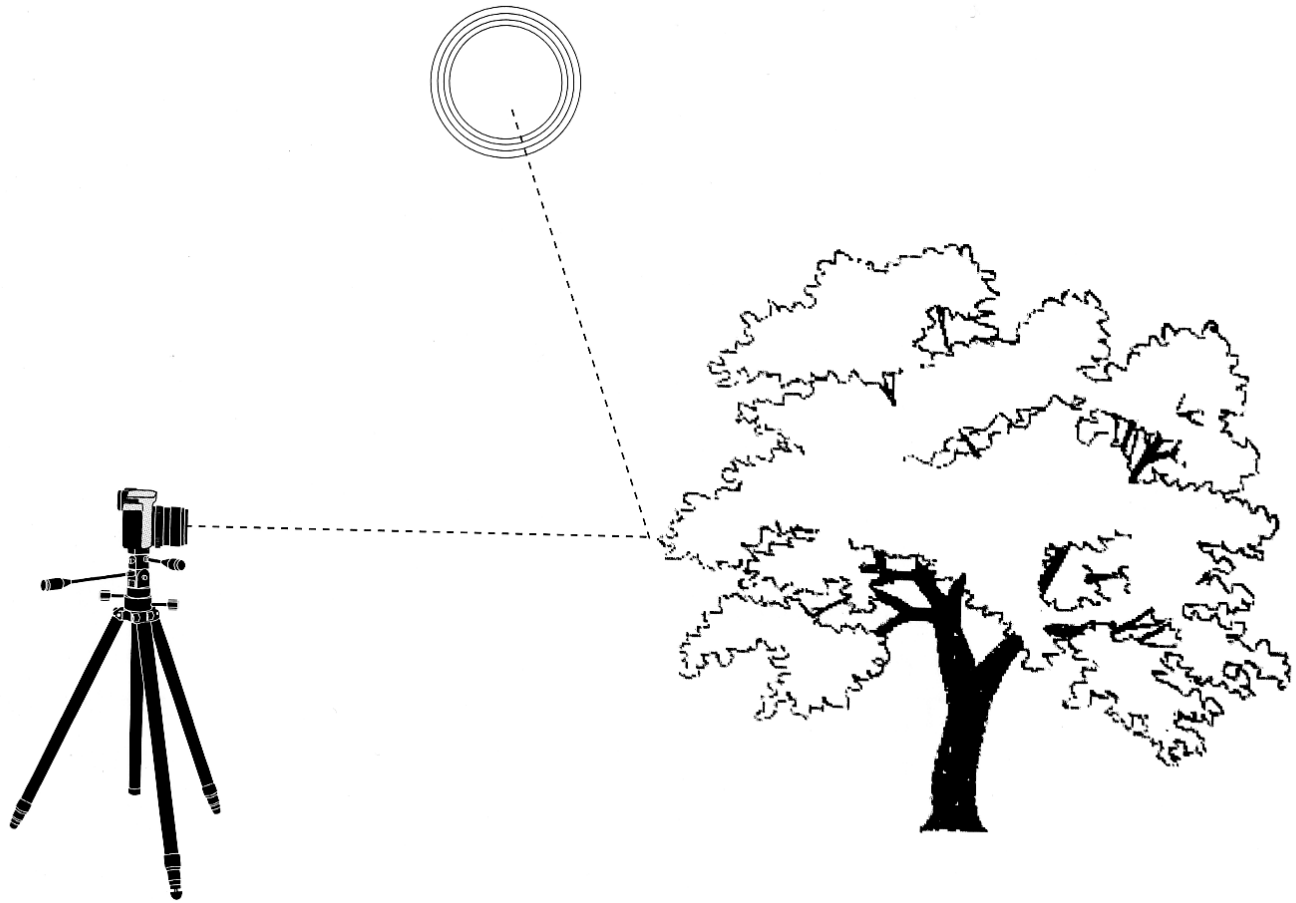
What will be introduced

- Exposure Triangle
- Exposure defined
- Light meter function
- 18% gray
- Exposure Compensation
- Define Stop
- Bracketing
- Why are we doing this?


Aperture
(Lens Pupil)
More Light, Faster, Shallower Depth of Field
Less Light, Slower, Deeper Depth of Field
f/22 f/16 f/11 f/8 f/5.6 f/4 f/2.8 f/2 f/1.4
The Exposure Triangle
Shutter Speed
(Time)
More Light, Slower, Motion blur
Less Light, Faster, Freezes Action
1sec 1/2 1/4 1/8 1/15 1/30 1/60 1/125 1/250 1/500 1/1000
100 200 400 800 1600 3200 6400 12800 25600
Less Light, Slower, Less Noise, Cleaner Details
More Light, Faster, More Noise, Less Detail
ISO
(Sensor Sensitivity)

Photography – Greek

photo = light
graphy = writing



What is an exposure?

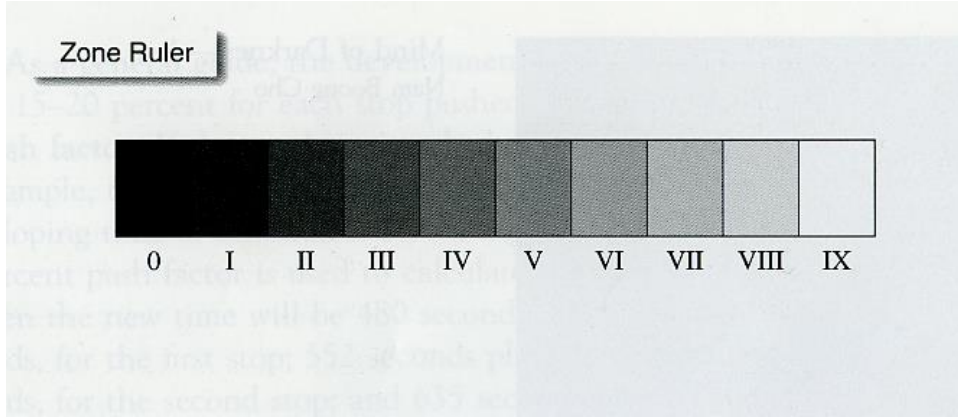
Exposure

- Combined effect of ***volume*** of light hitting the film or sensor and its ***duration***.
- ***Volume*** is controlled by the aperture (f-stop)

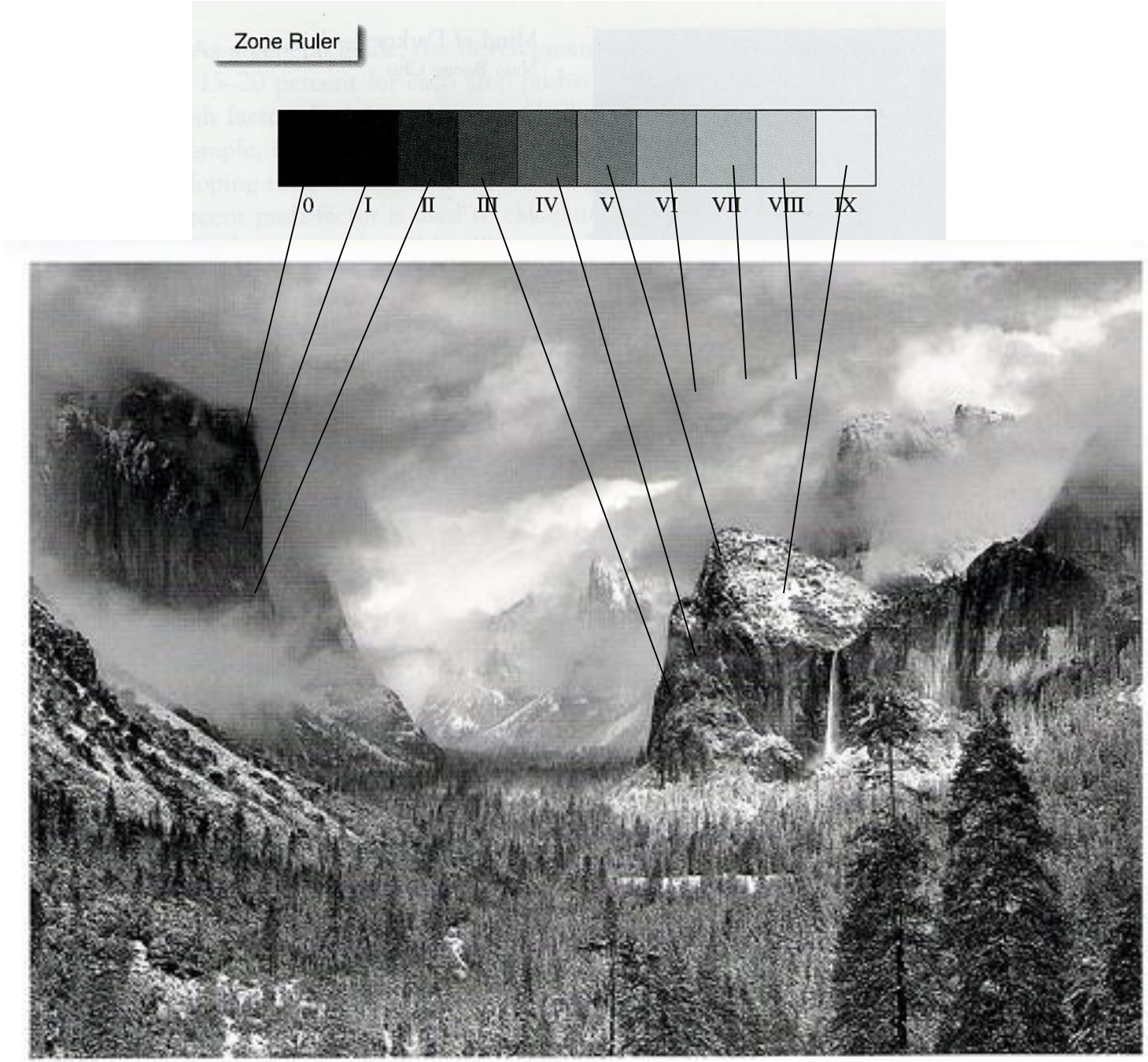
- ***Duration*** (time) is controlled by the shutter speed

Light Meter

- Purpose = tells you how much light is being allowed into the camera based on the current APERTURE, SHUTTER SPEED, and ISO settings
- Averages all light in scene to 18% gray which is ZONE V on Zone system scale
- Is correct most of the time

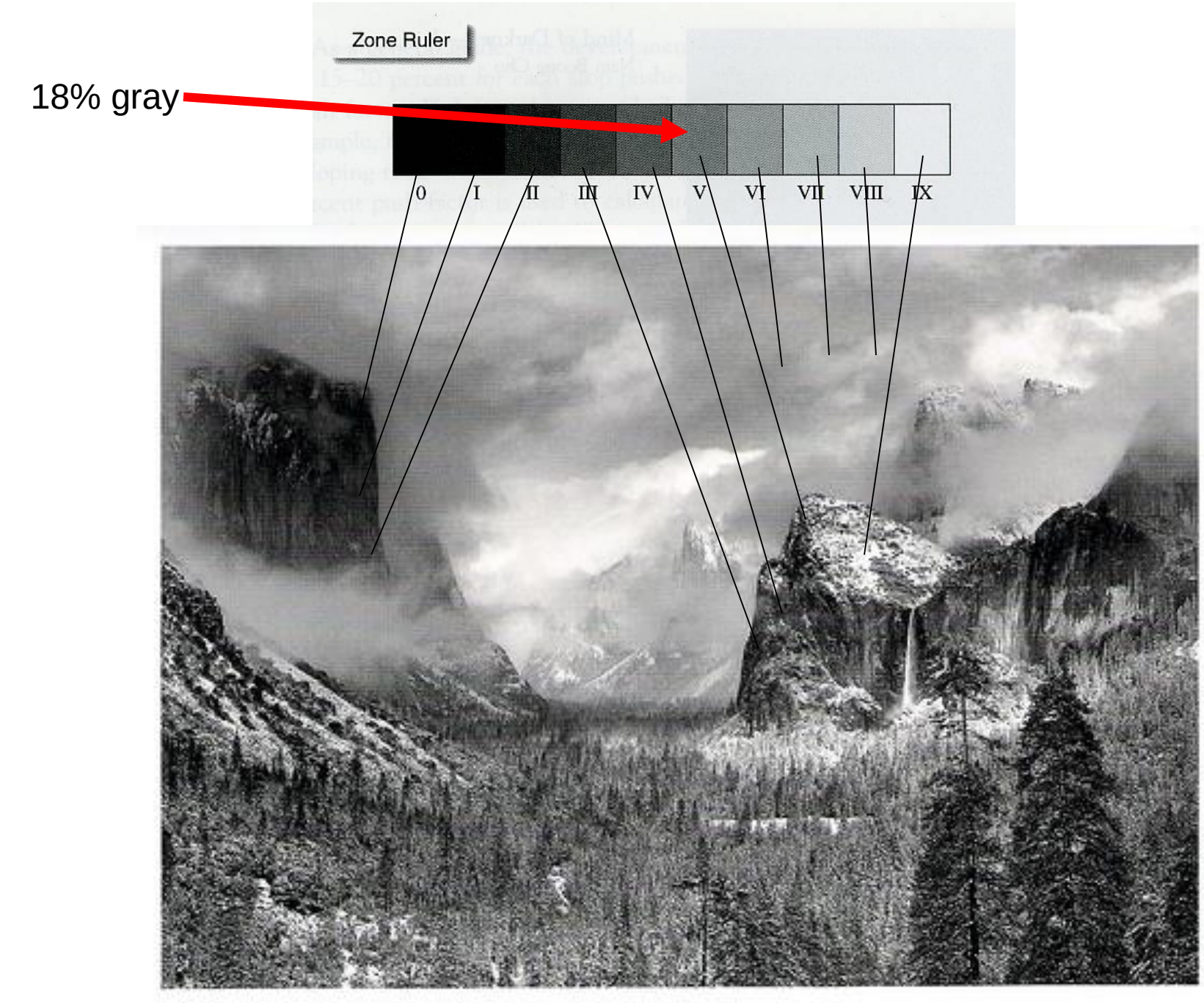


ZONE	DESCRIPTION
0	Maximum black
I	The first tone distinguishable from black with no detail
II	The first visible texture in a very dark area
III	Black with detail—a highly textured dark area with distinct detail; this zone is considered the shadow detail area for average value metering
IV	Dark gray
V	Middle gray, with 18 percent reflectance
VI	Light gray
VII	White with detail; the lightest area in the photograph that will have distinct texture or detail; this is the highlight area for the average value method
VIII	The brightest tone distinguishable from white
IX	Paper white


Zone Ruler
0
I
II
III
IV
V
VI
VII
VIII
IX

18% gray

- Tone to which all light meters average the light given off by the scene which is being photographed


18% gray
Zone Ruler
0
I
II
III
IV
V
VI
VII
VIII
IX

This is 18% gray.

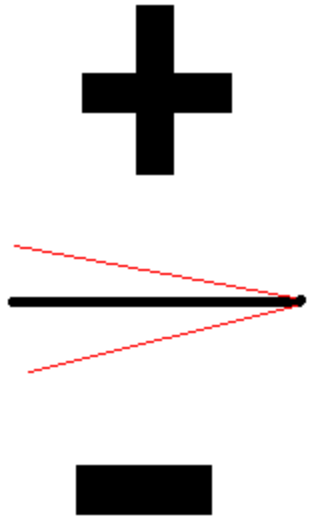
Bruce DeBonis
TravelThroughPictures.com

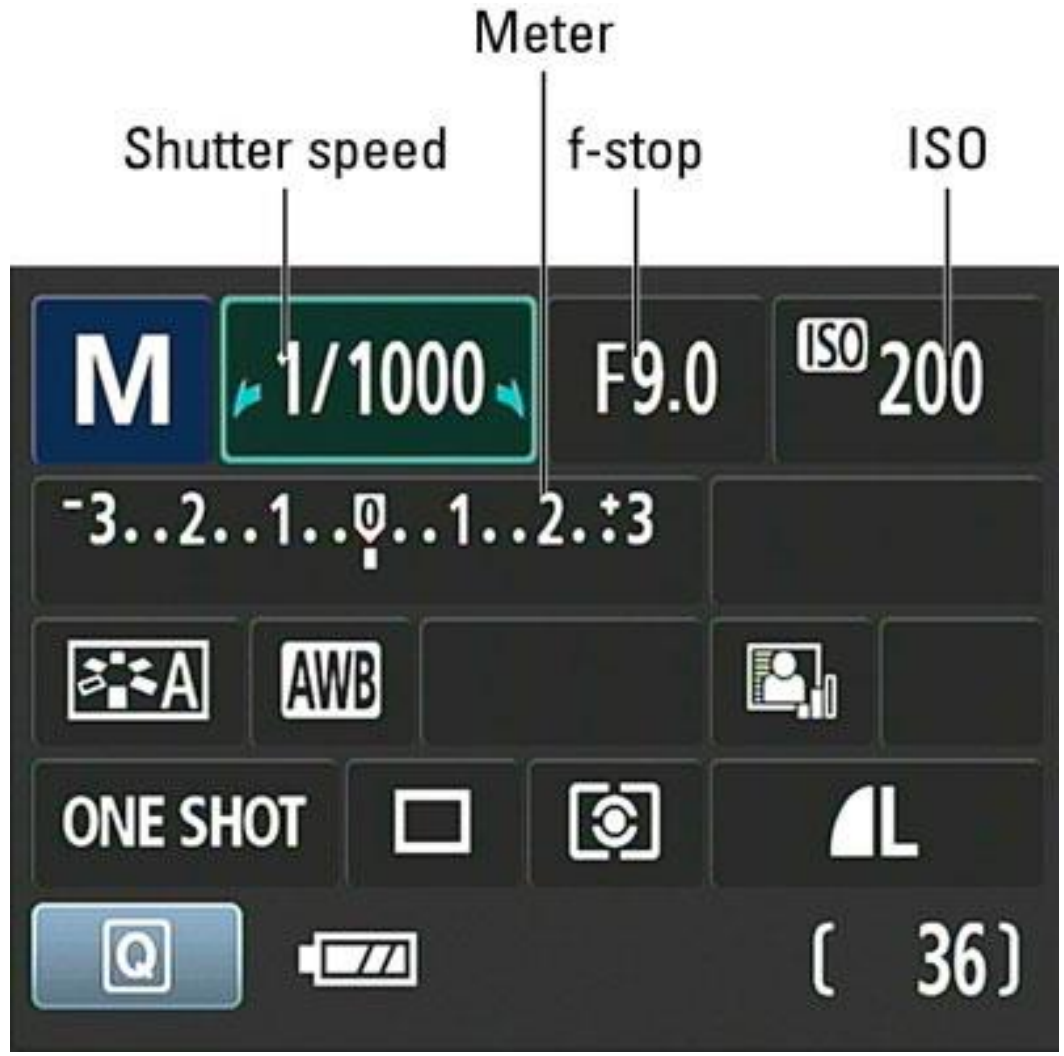
This is 18% gray.

Bruce DeBonis
TravelThroughPictures.com

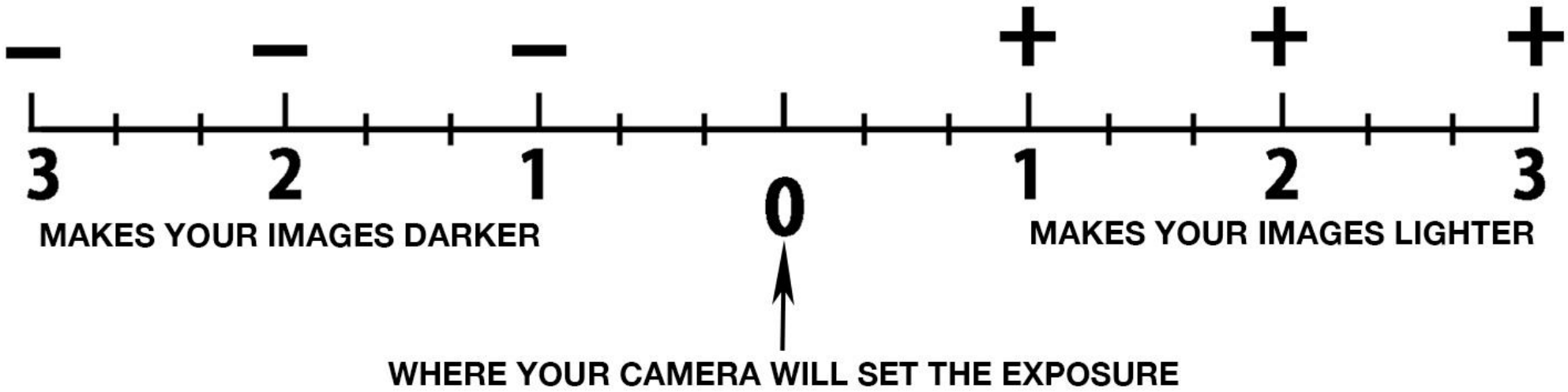
What Light Meters Look Like

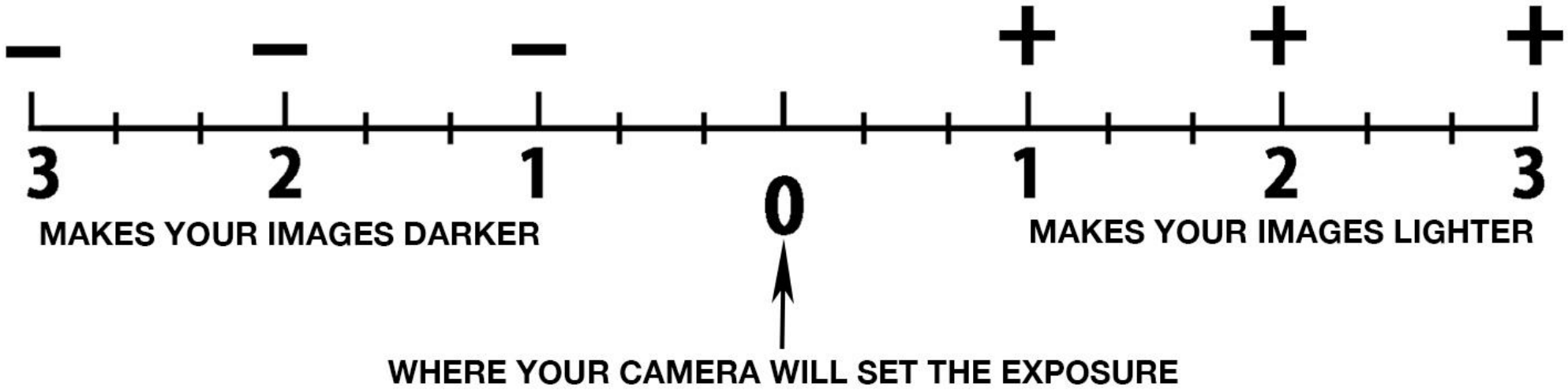
Needle light meter




Meter
Shutter speed
f-stop
ISO
M
1/1000
F9.0
ISO 200
-3..2..1..0..1..2..+3
AWB
ONE SHOT
Q
36

Light Meter on Moment app
EV stands for Exposure Value


−
−
−
+
+
+
3
2
1
0
1
2
3
MAKES YOUR IMAGES DARKER
MAKES YOUR IMAGES LIGHTER
WHERE YOUR CAMERA WILL SET THE EXPOSURE



Underexposure **Overexposure**

Why is learning about exposure important?

To possess control of light as it is expressed in your image

Increased exposure for a brighter image

Decreased exposure for a darker image

Exposure Compensation

Exposure Compensation

Technique for adjusting the exposure indicated by a photographic exposure meter, in consideration of factors that may cause the indicated exposure to result in a less-than-optimal image.

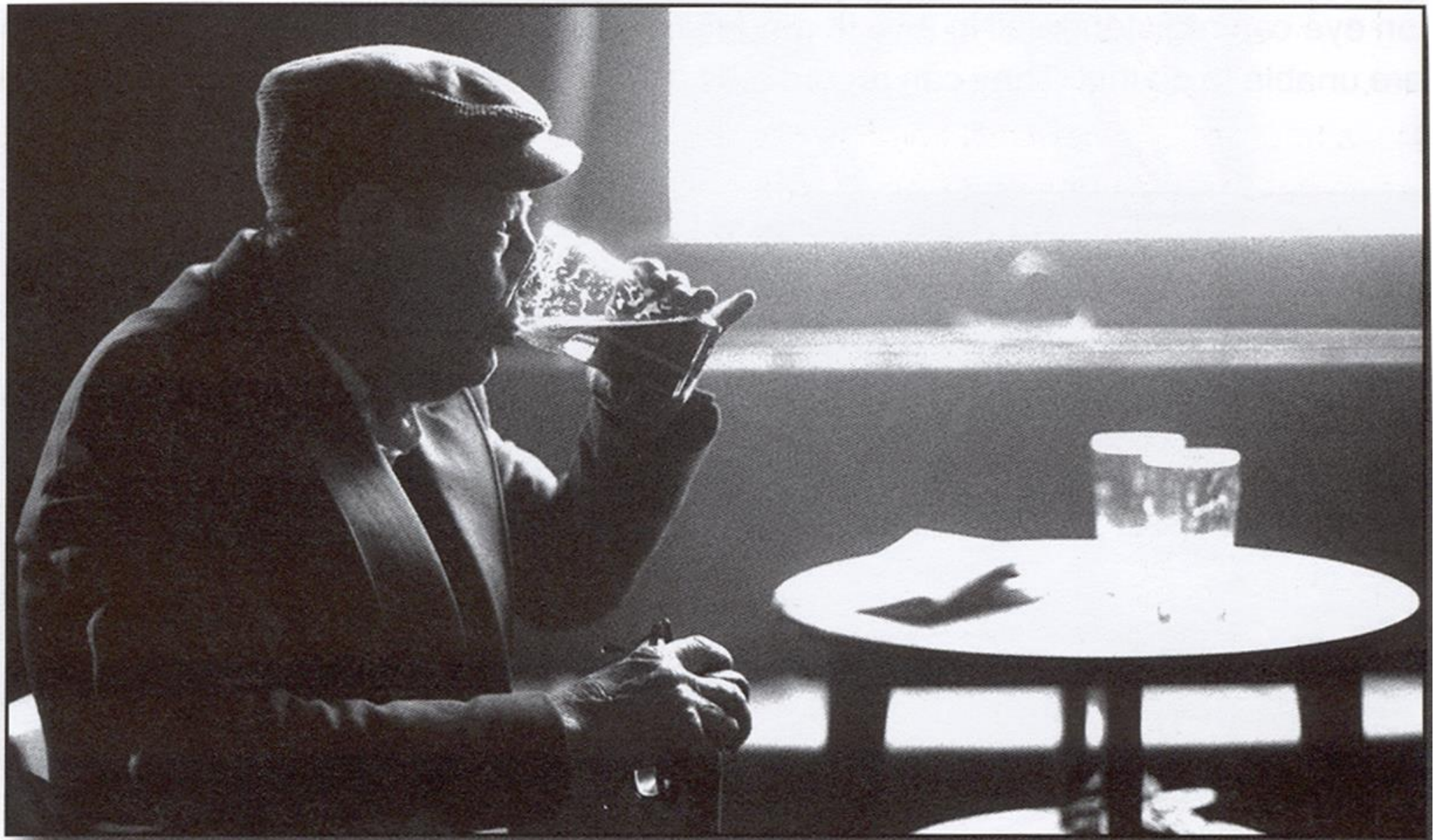
Exposure Compensation

Shot on auto meter

Shot to overexpose so that shadow detail is visible (more light is allowed into camera)

Increased exposure for a brighter image

Decreased exposure for a darker image



The Rhondda - Mark Galer

ONE-OF-A-KIND EXPERIENCES FOR YOUR NEXT ADVENTURE

California

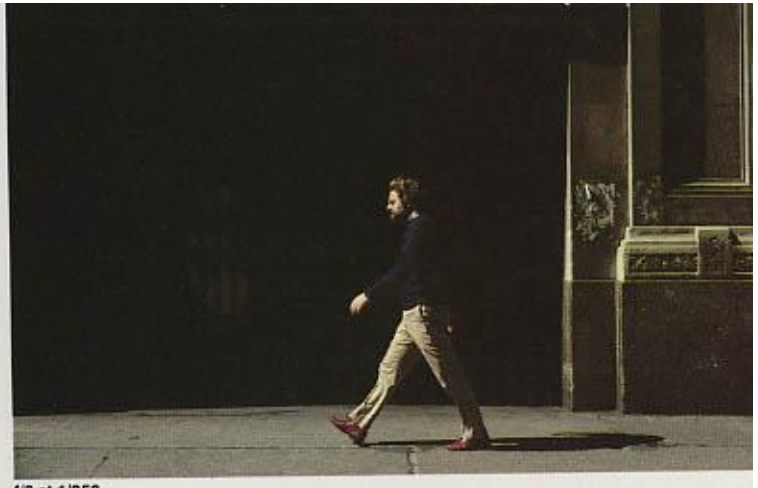
VISITCALIFORNIA.COM

ROAD TRIPS

11 UNFORGETTABLE DRIVES

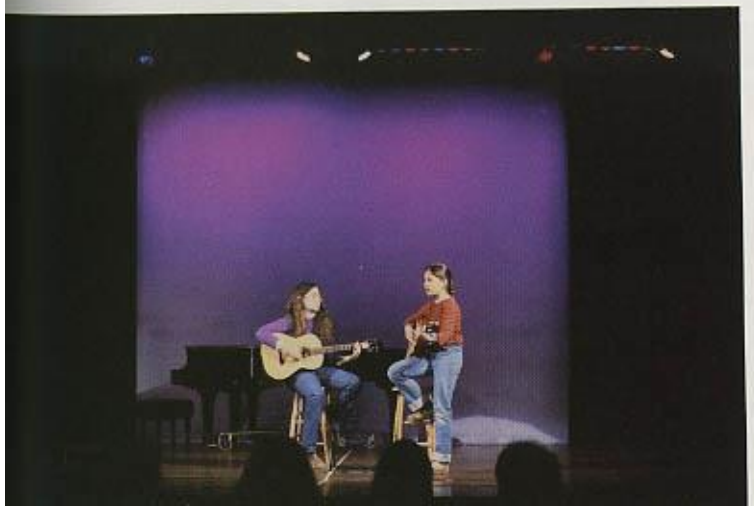
Take the wheel. Take control.
Take the trip you've been dreaming about.

.8 at 1/250



f/8 at 1/250

e problem here is the opposite of that caused by the sky left. The dark background so dominates the frame that the ter measurement overexposes the figure (above, left). A ose-up reading of the man's face gave correct exposure.



'11 at 1/250

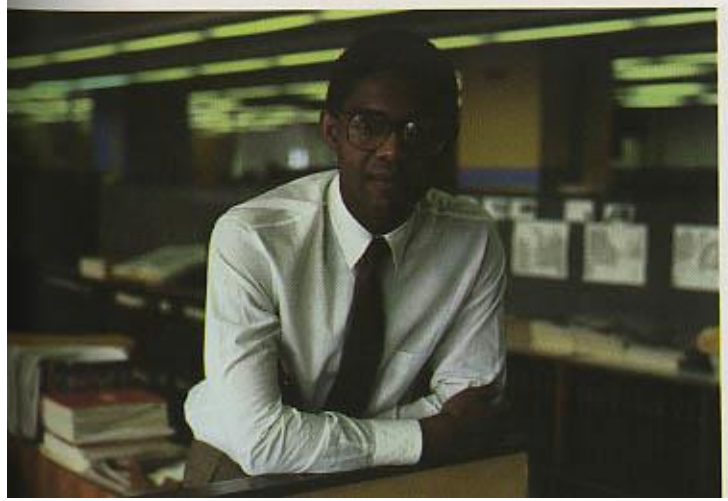
he bright sky occupying half the picture produced an itial reading that underexposed the sheep and the farm above, left). Aiming the camera lower to exclude the sky ave a correct exposure for the main subjects (right).

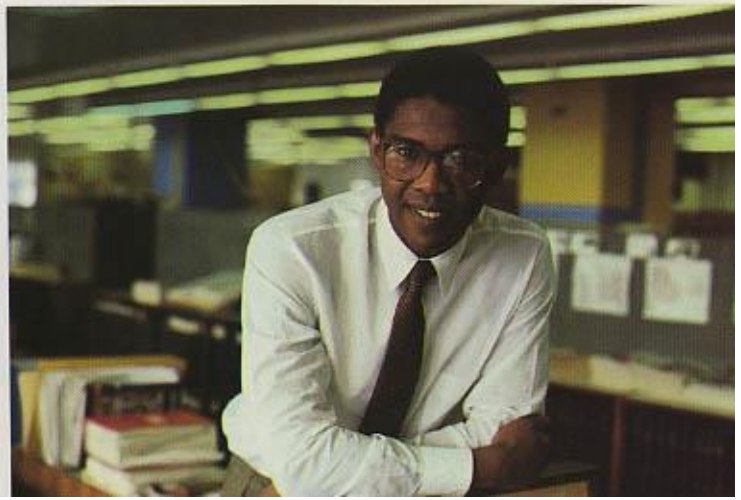
f/8 at 1/250

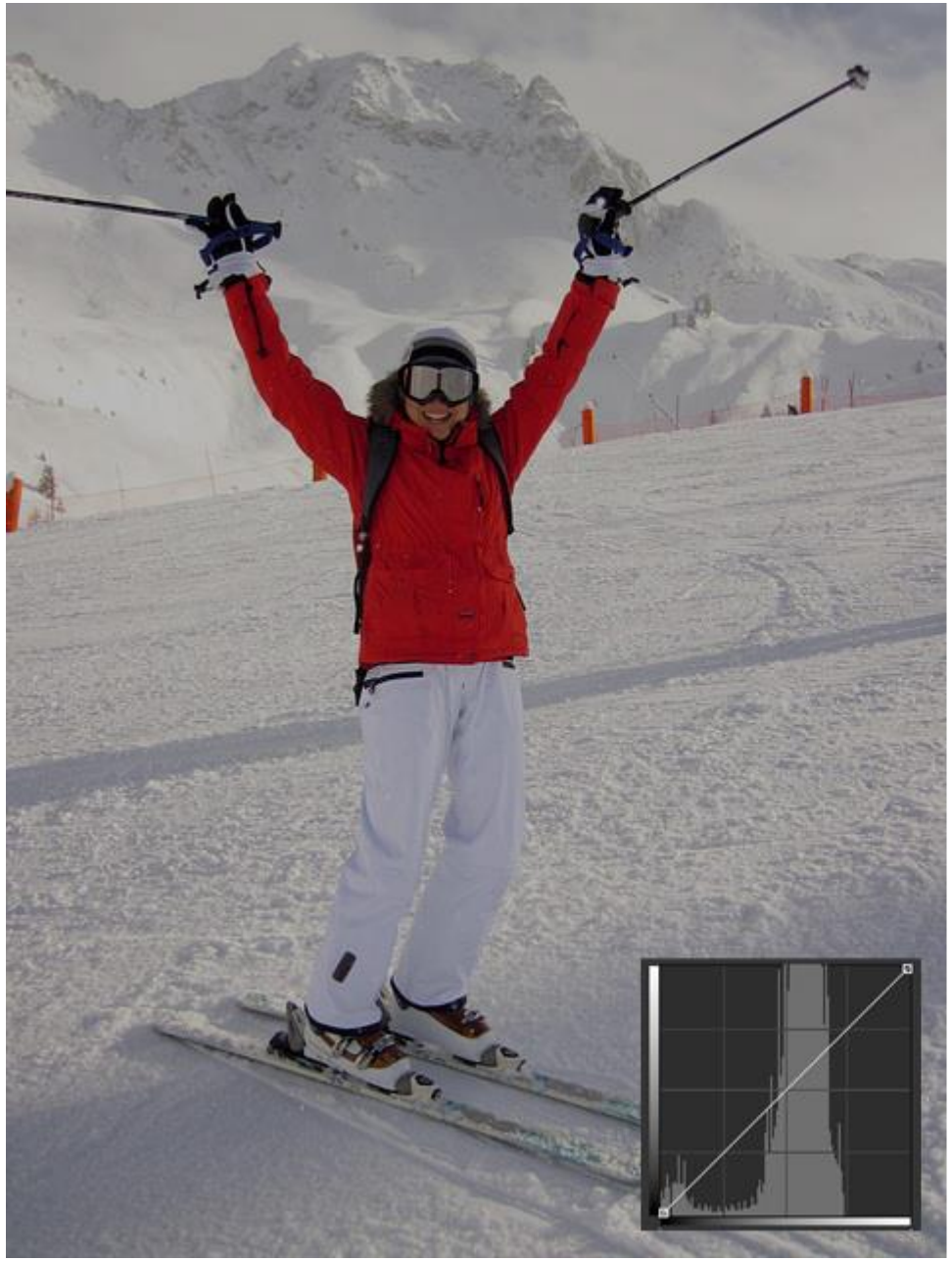
5 at 1/30 second

f/4 at 1/30 second

white subject reflected so much light that the meter
ally recommended an underexposure that dulled it to
(above, left). A reading from an 18 per cent gray card
an exposure that revealed true whites (right).





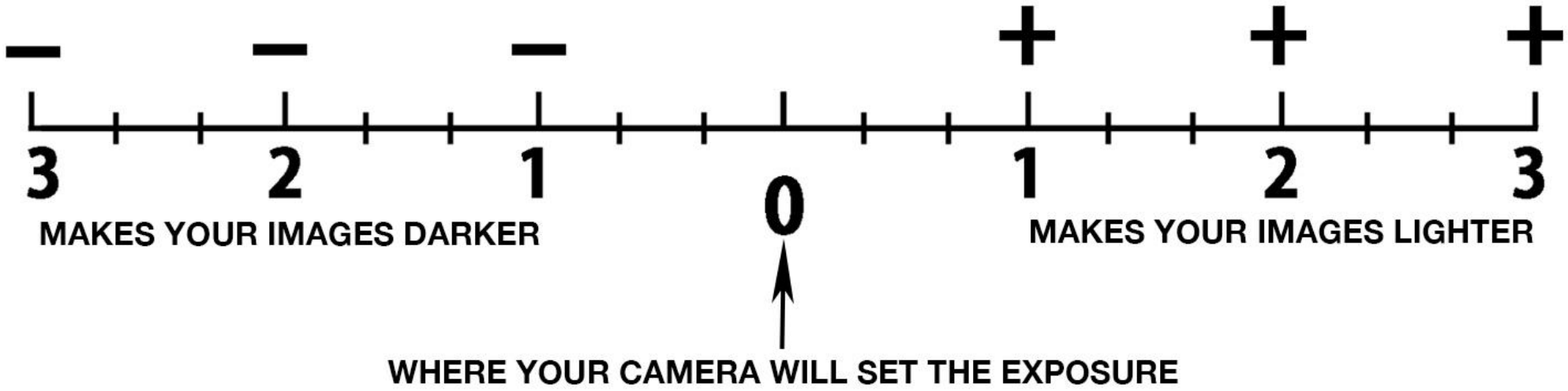


Tyler Chandler

What is a Stop?

- A change in an exposure setting, either aperture, shutter speed, or ISO that either doubles or halves exposure

- x2
- or ½



Underexposure **Overexposure**

Bracketing

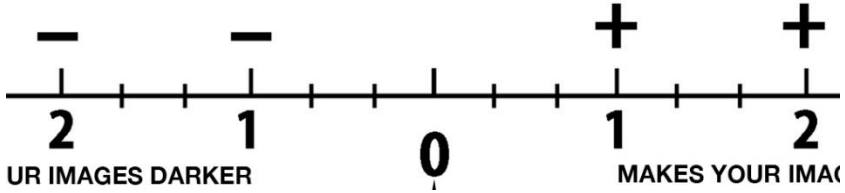
-1

-2

0

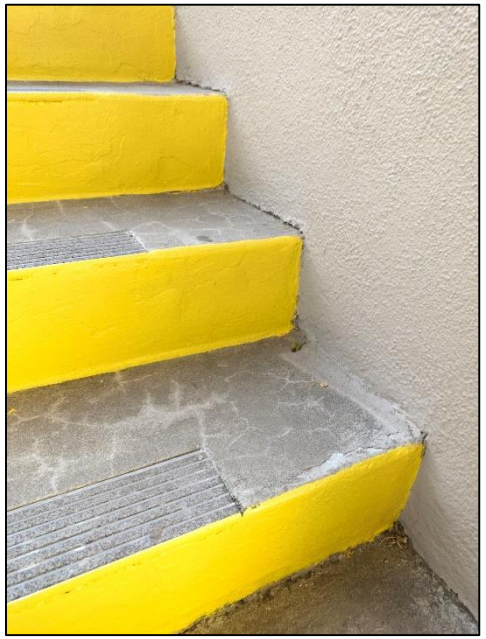
+1

+2



+2

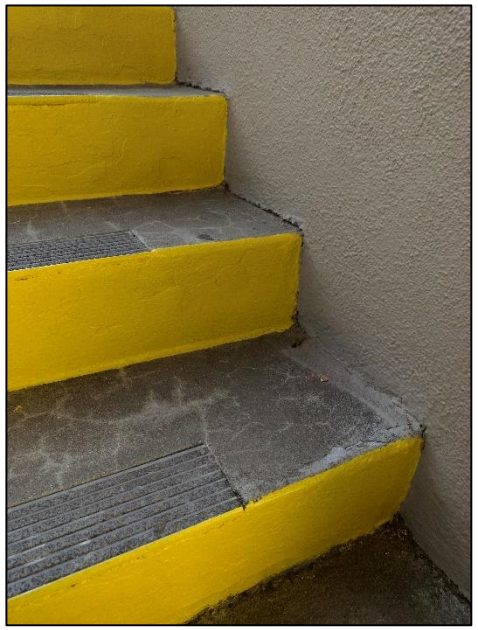
Cannot usually go this far with a cellphone camera due to aperture size limit



0

18% gray

-1



+1

-2