

Exposure, Shutters and F-Stops

Why are they important?

- Quality
- Artistic Effect
- Permanent
- Enhance detail
- Balanced images
- Reveal the unseen

Auto Exposure (AE) lacks control

Exposure



Under-exposed



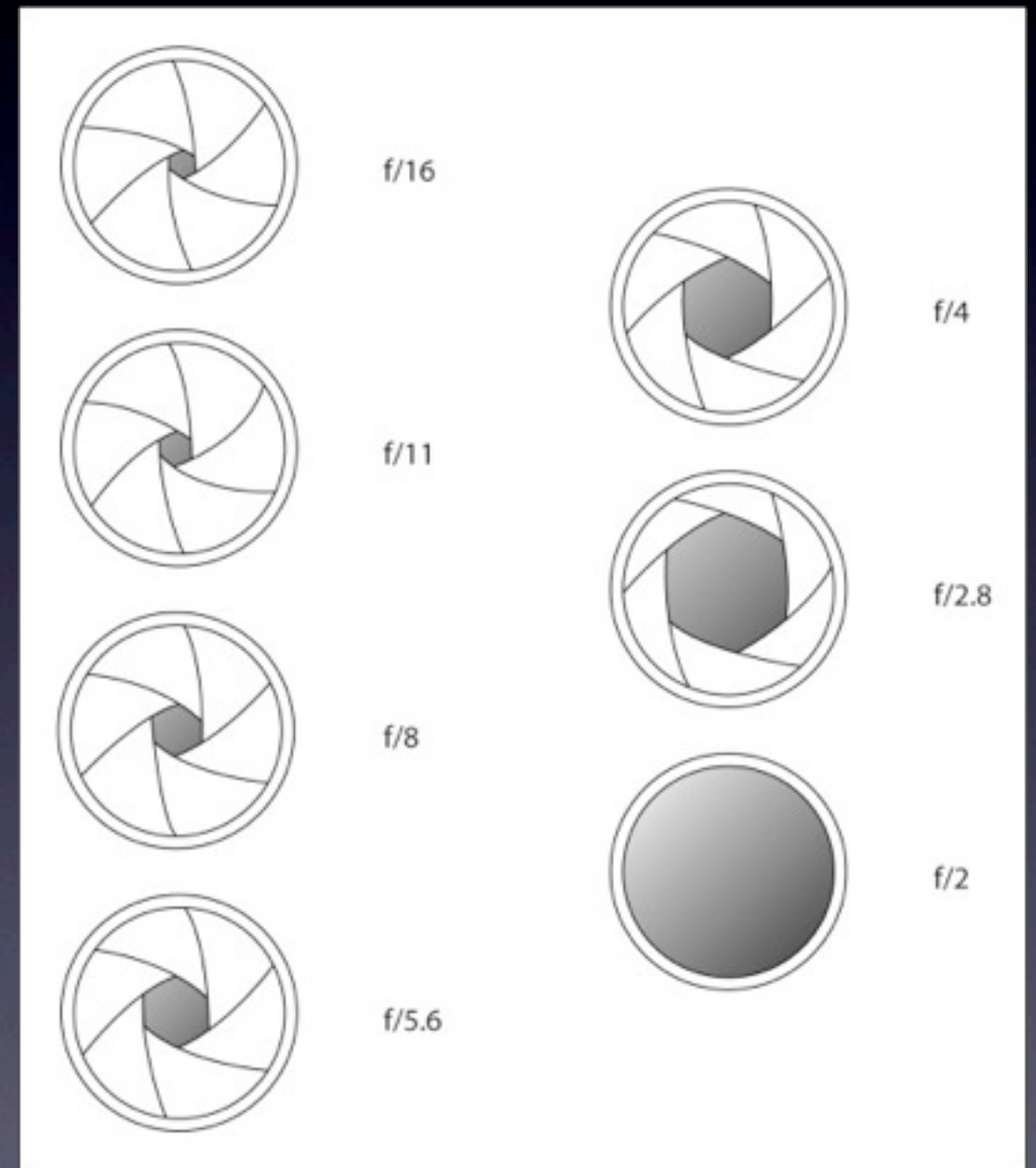
Over-exposed

Camera Settings

- **Automatic-** Full auto on all settings
- **Scene-** Preset modes for specific situations
- **Programmed AE-** Combinations of shutter and aperture for effects
- **Shutter-priority-** manual shutter and auto aperture
- **Aperture-priority-** manual aperture and auto shutter
- **Manual-** full control of settings

Aperture

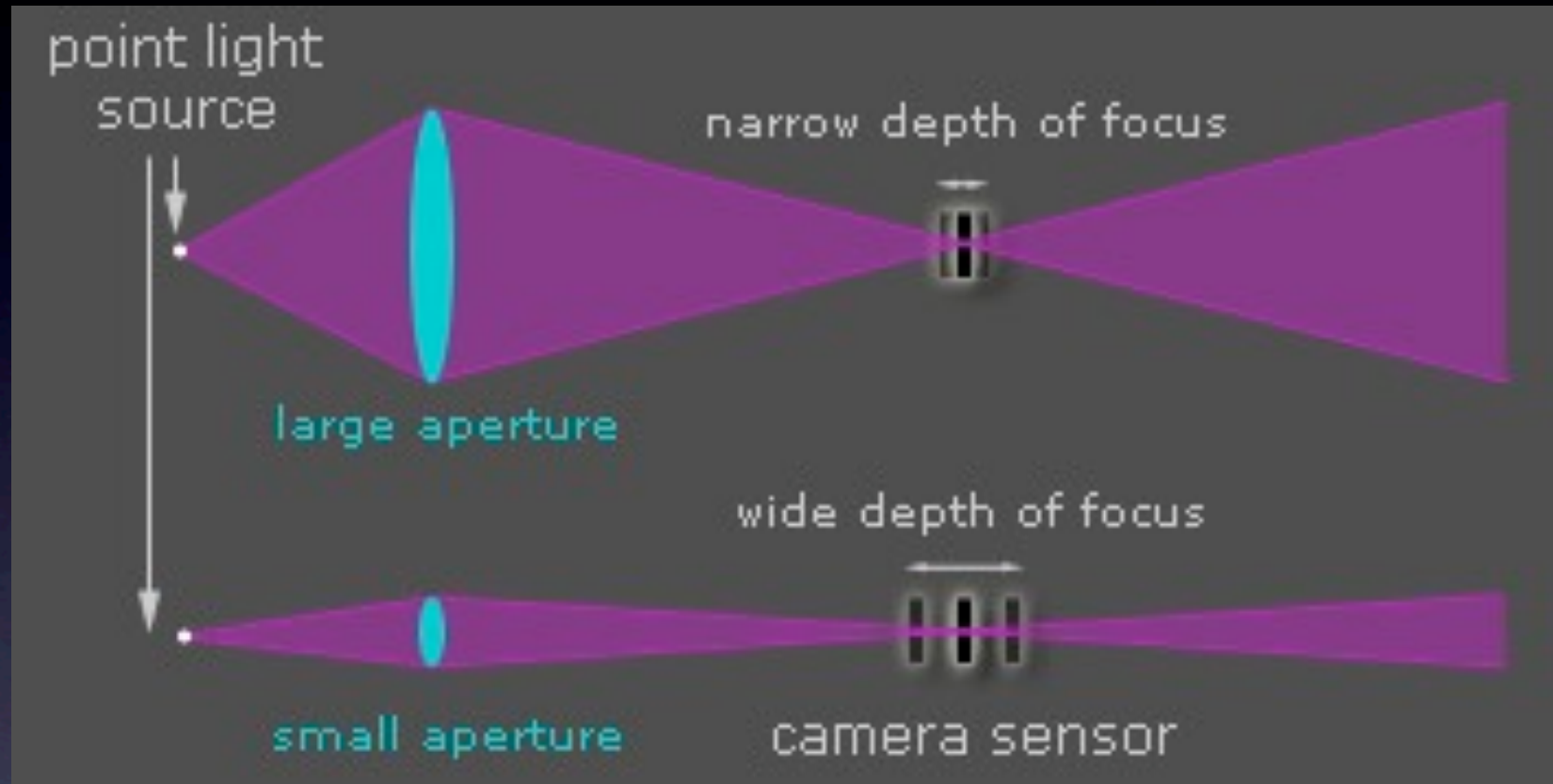
- Amount of light allowed into camera affects exposure.
- Measured in f-stops.
- Depth of field:
 - large aperture decreases the depth of field.



Depth of Field



Depth of Field

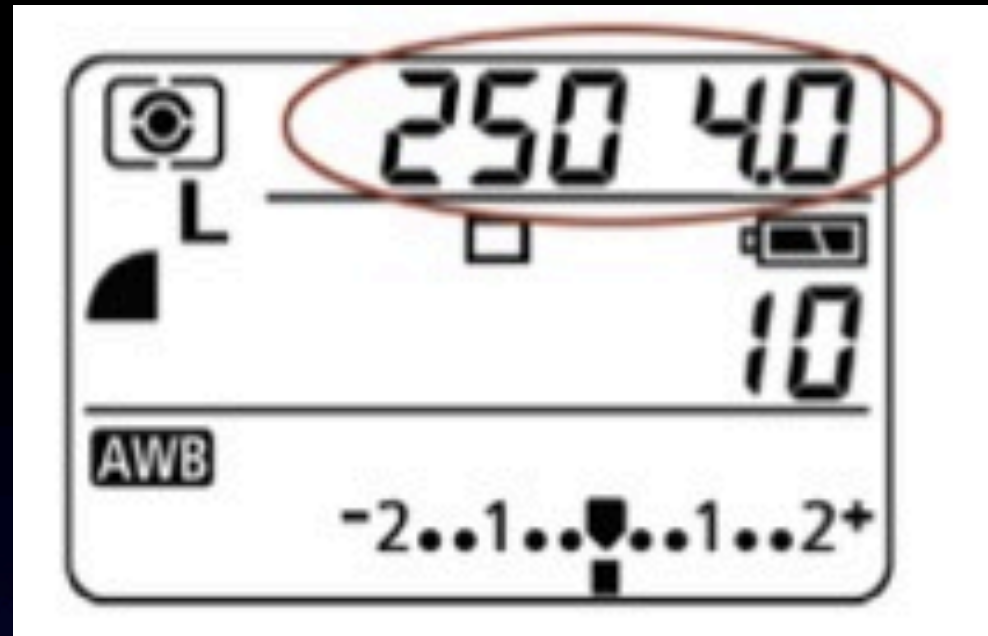


- Objects that are further apart enhance the effect
- A high focal length increases the effect
- Make use of foreground and background objects

Shutter

- Regulates the exposure to light.
- Opens and closes to begin and end an exposure.
- The longer its open the more light is allowed to reach the sensor.
- This time is determined by the shutter speed.





$1/1000$ is much faster than $1/30$.

With presets and manual release this can be open for longer periods such as 20 sec.

Speeds slower than $1/60$ will benefit from a tripod.

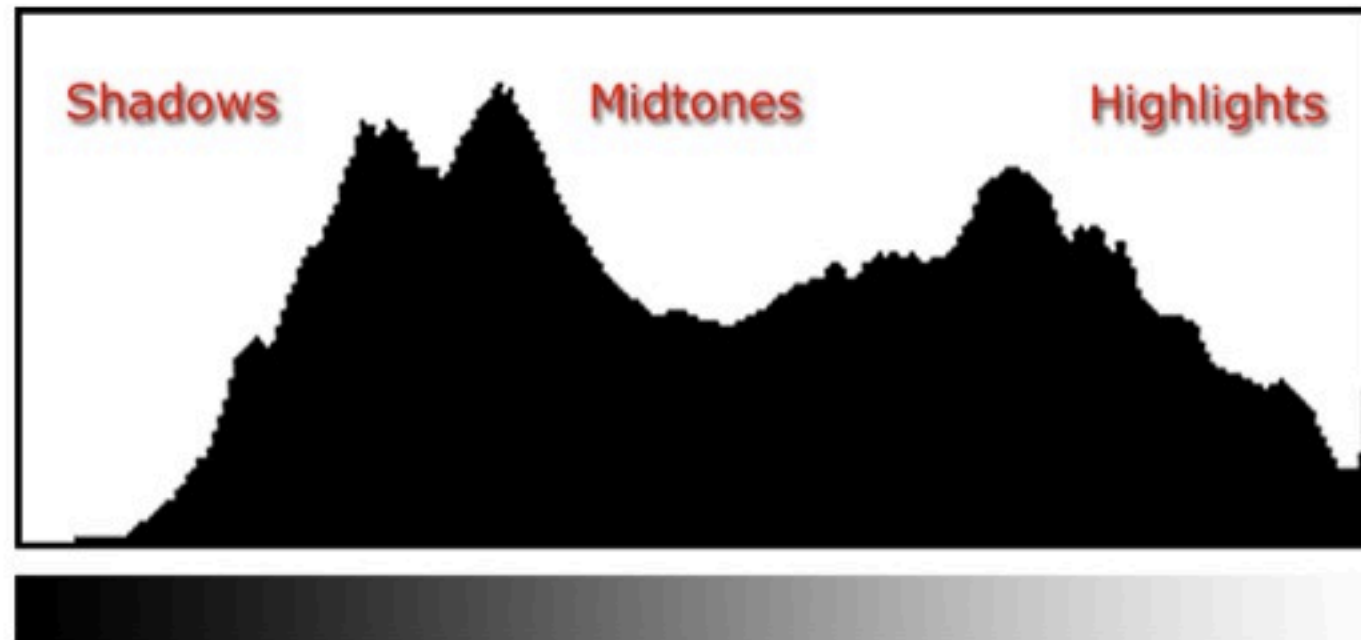
Use motion blur creatively



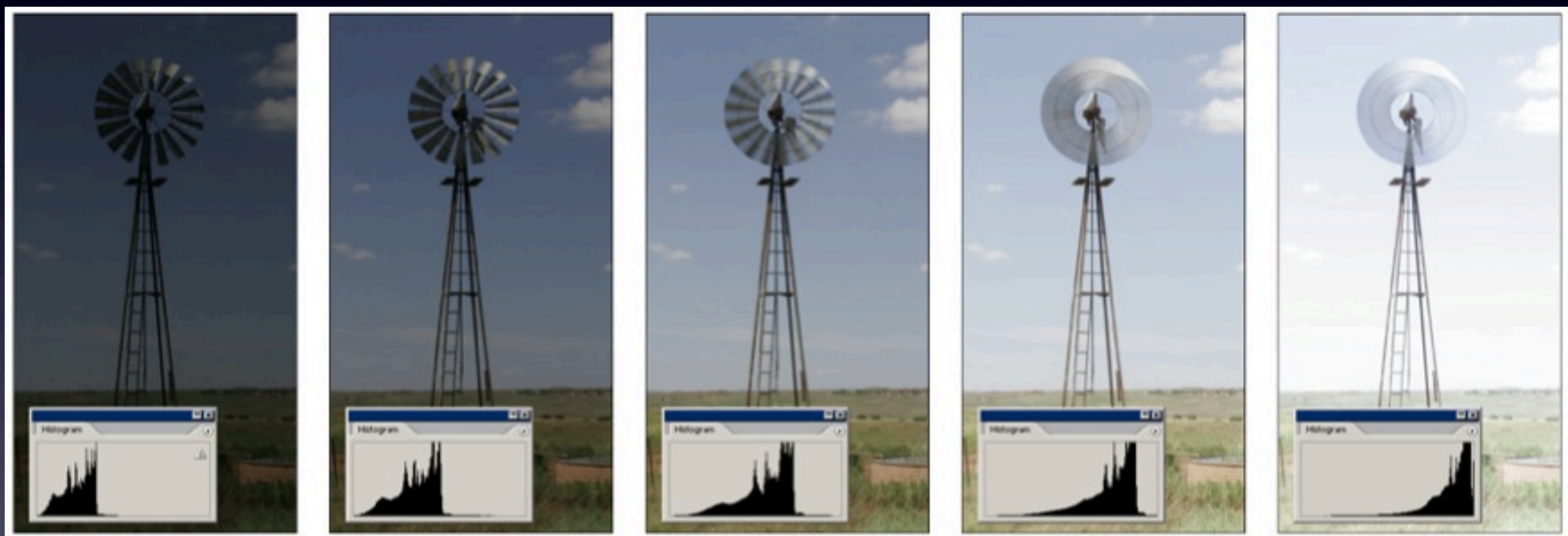
Image by Flamed, <http://www.flickr.com/photos/flamed/>

Histogram

➤ The vertical axis represents the number of pixels that have each of the 256 brightness values. The taller the line, the more pixels there are at that level of brightness.



▲ The horizontal axis represents the range of brightness from 0 (shadows) on the left to 255 (highlights) on the right. Think of it as a line with 256 spaces on which to stack pixels of the same brightness. Since these are the only values that can be captured by the camera, the horizontal line also represents the camera's maximum potential tonal range.

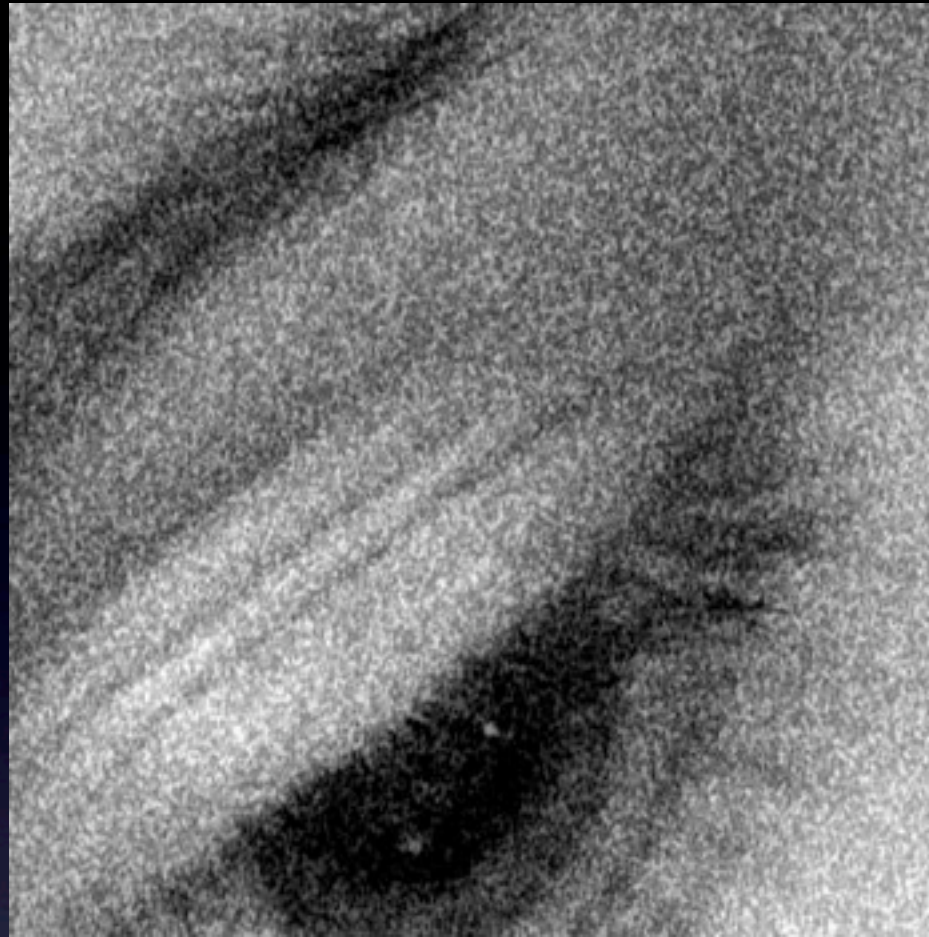


ISO Film Speed

Sensitivity

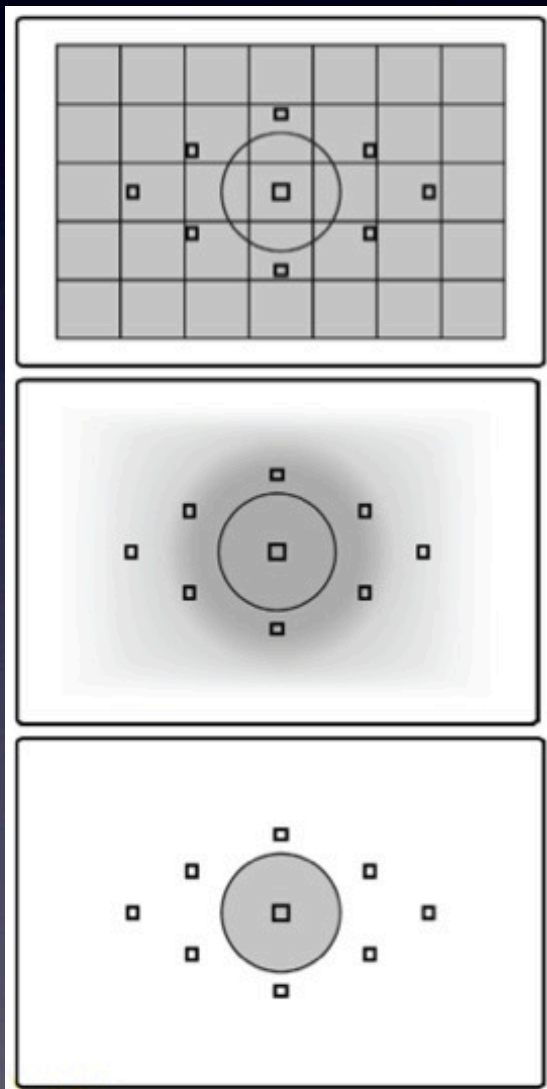
- ISO 1600
- ISO 800
- ISO 400
- ISO 200
- ISO 100
- ISO 80





- ISO 80 = Slow. Requires bright light. Wide aperture can be used. Images can be blurry.
- ISO 1600 = Fast. Good for low light and images that could be blurred by movement.

Autoexposure Metering



Matrix

Spot

Centre Weighted



Paul Seawright



Richard Billingham

