

Gearing Up Workshop

Saturday, March 3

Choosing a lens for your purpose

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Interpret the Scene

Proper Exposure

- ISO
- Aperture
- Shutter speed

Which lens will you use?

Lenses and Focal Lengths

Wide angle	14 mm – 35 mm
Natural lens	50/55 mm
Telephoto	70 – 600mm and up!

Fixed or Zoom

Focal Length Comparison

Same viewpoint,
Different **angles** of view



Normal angle 50 mm



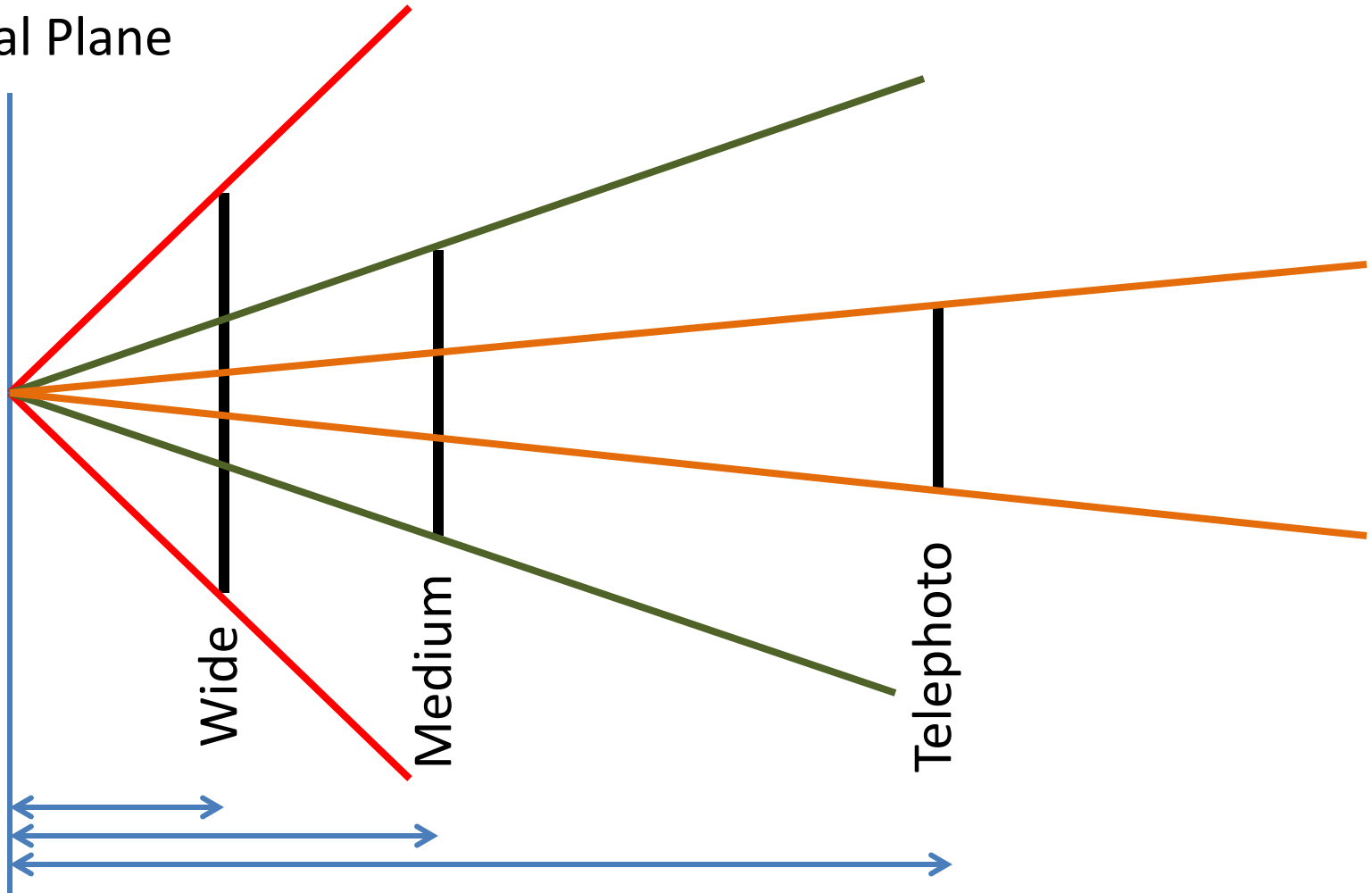
Wide angle 24 mm



Telephoto 300 mm

Angle of View

Focal Plane



Wide

Medium

Telephoto

Focal Length

Depth of Field

Area in the image that the eye perceives as sharp

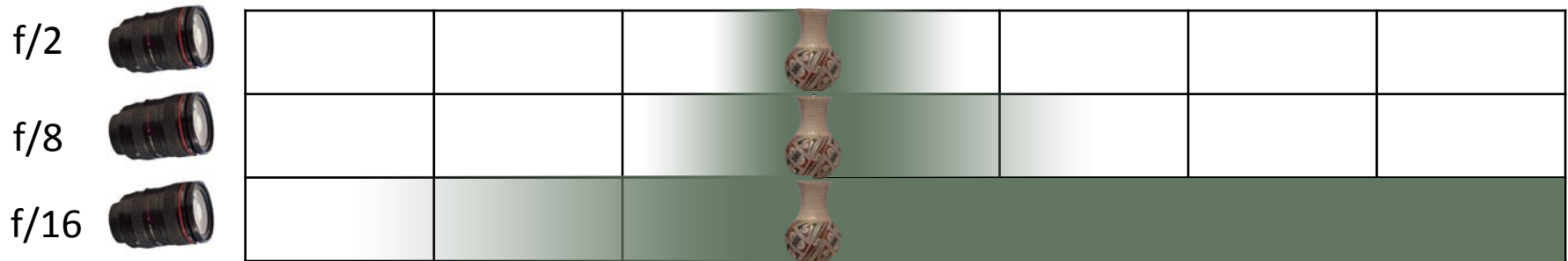
Affected by:

- Aperture size
- Subject-to-camera distance
- Lens Focal Length

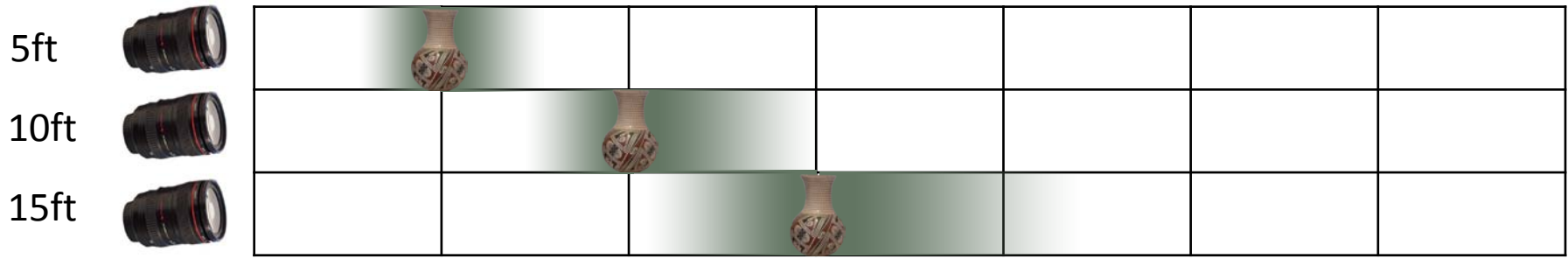
(Depth of Field usually extends one-third in front and two-thirds behind the subject)

Effects on Depth of Field

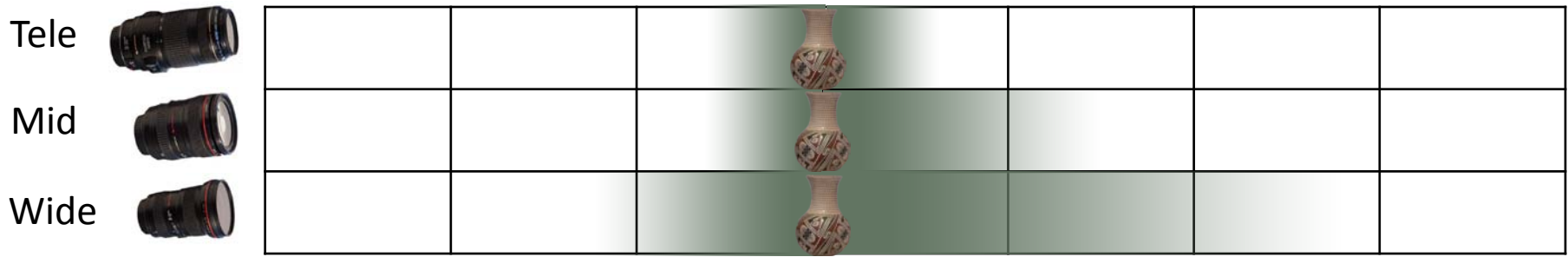
5ft 10ft 15ft 20ft 25ft 30ft



Aperture Size



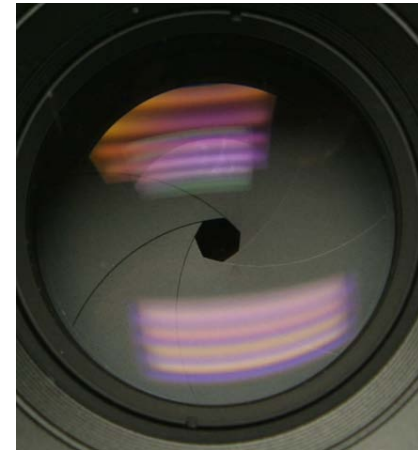
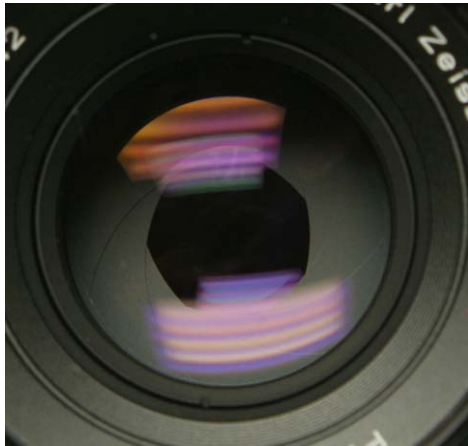
Subject-to-Camera Distance



Lens Focal Length

Aperture

The aperture size affects Depth of Field.



Remember:

- Large aperture = small numbers; $f/2.8$ $f/4$
- Small aperture = large numbers; $f/16$ $f/22$

Depth of Field controlled by Aperture

Examples with 50 mm fixed lens



Aperture at $f/16$ gives wide depth of field.



Aperture at $f/4$ gives shallow depth of field.

Subject to Camera distance

When the subject is closer to the camera, the depth of field is more shallow



Both have same exposure: $1/800^{\text{th}}$ second f/11 focal length 200mm



Telephoto lens

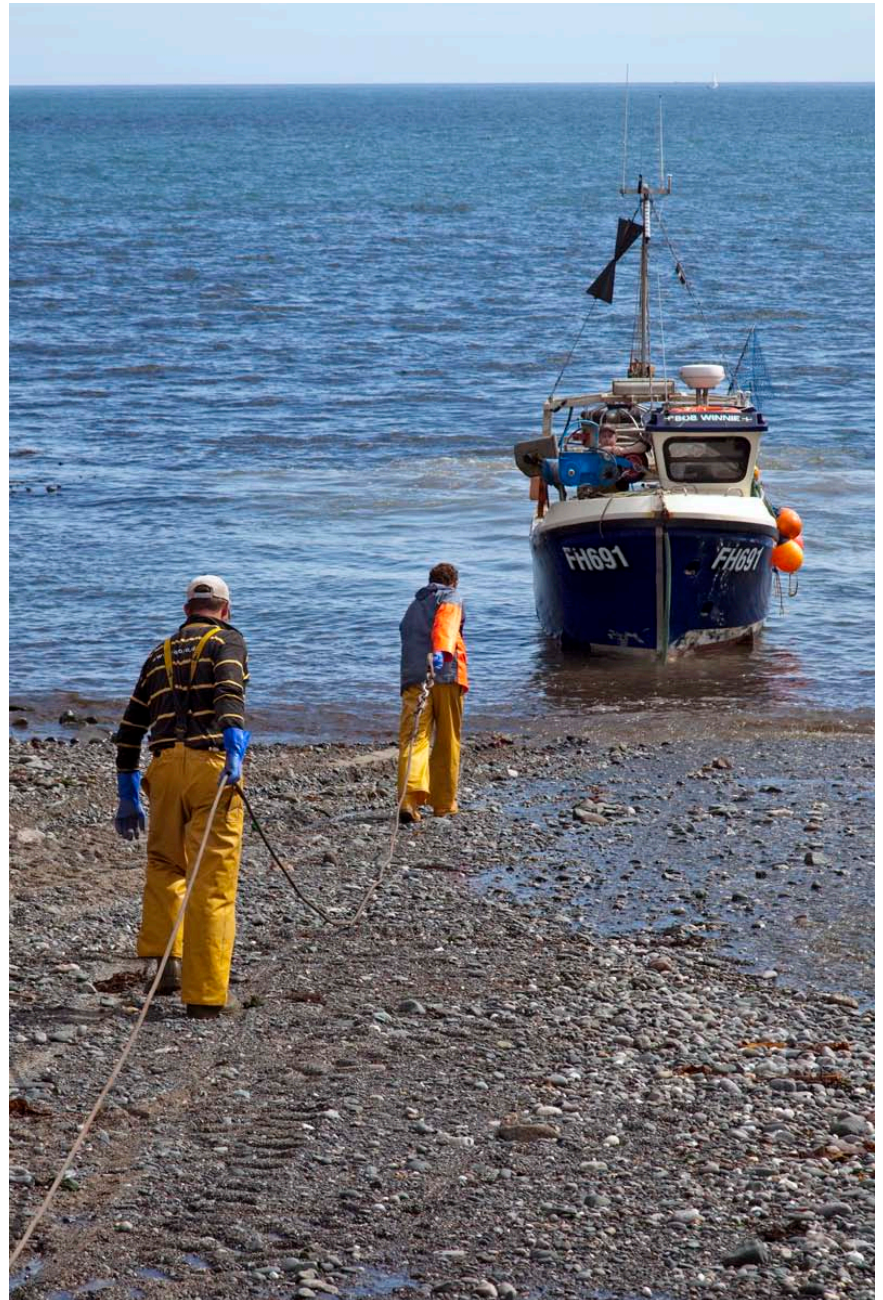
Brings the subject closer, but
depth of field more critical



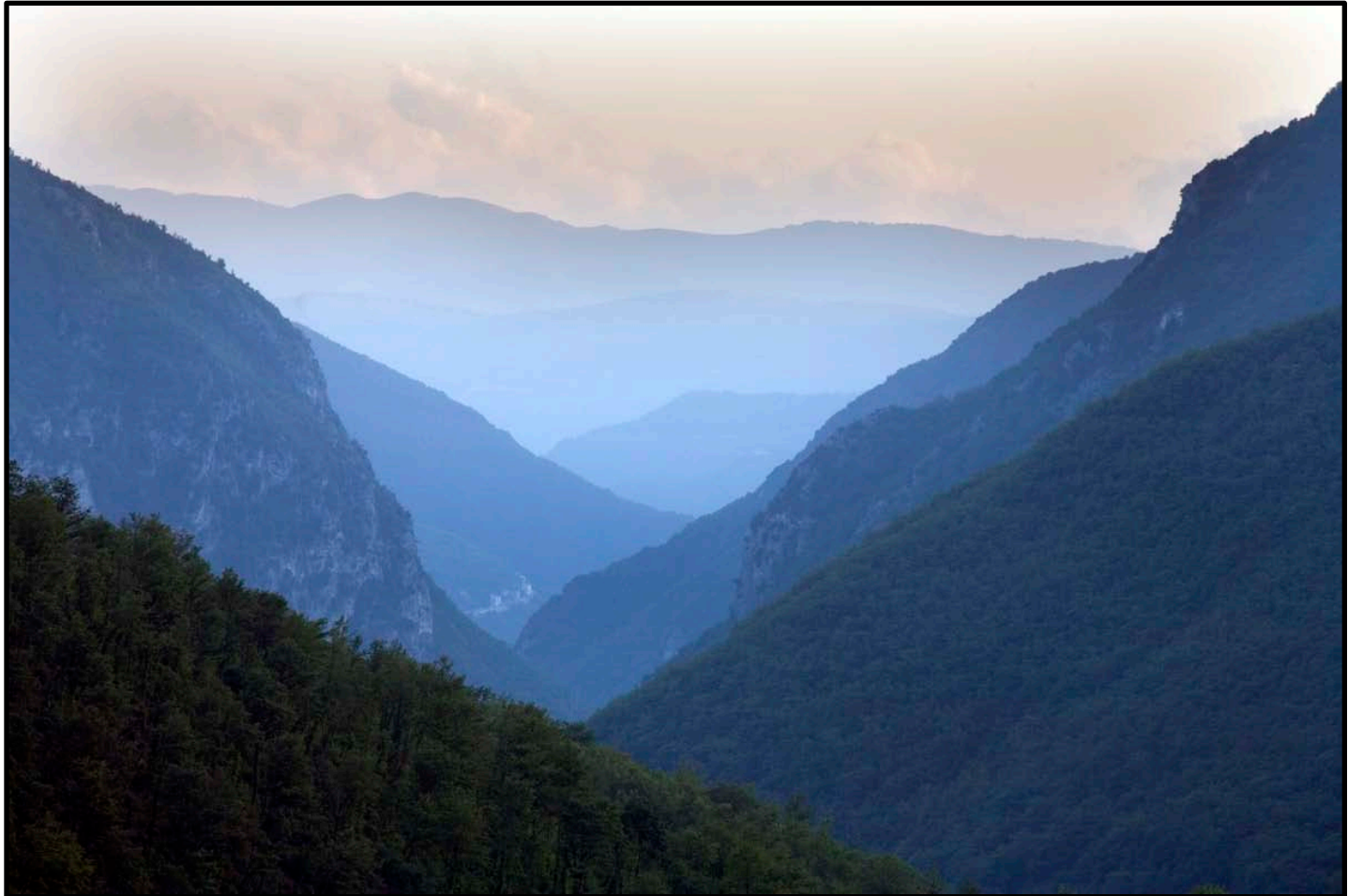
Telephoto lens

Longer focal lengths can make objects appear closer to each other

105 mm f.11 at 1/250th second



Telephoto lens





Telephoto lens

can separate the subject from the background –
useful for portraits

“Normal” lens around 50mm

- Closest to what our eyes see
- No distortion like a wide angle can give



50 mm lens



32 mm lens



Wide Angle Lens

Gives good depth of field



Wide Angle lens

In portraits, it can show your subject's setting





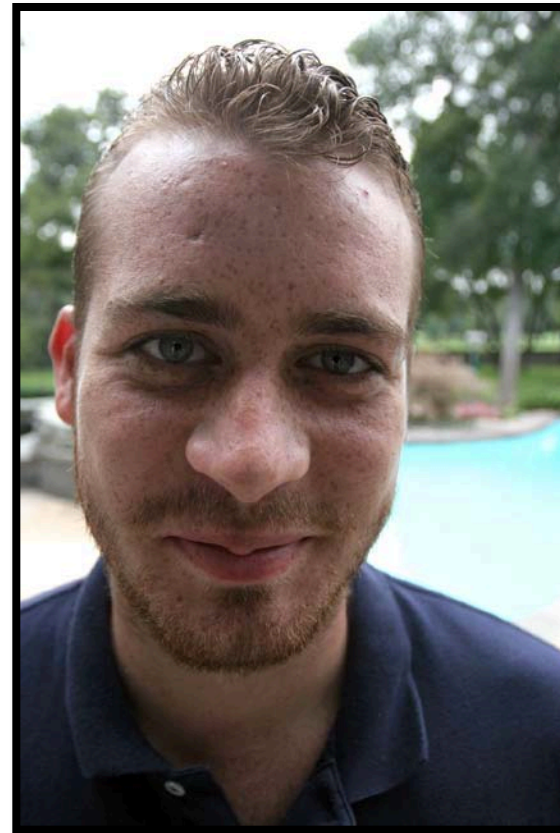
Wide Angle lens

Can make viewer feel part of the action



Wide Angle Lens

Watch out for distortion!



When buying a lens you might consider:

- How heavy is the lens to carry?
- What is the minimum focusing distance?
- How “fast” is the lens? (smallest aperture)

Please visit one or more stations to
learn more!

Thanks for your time