

# Exposure

**It's all about how much light your camera collects and how it is recorded**

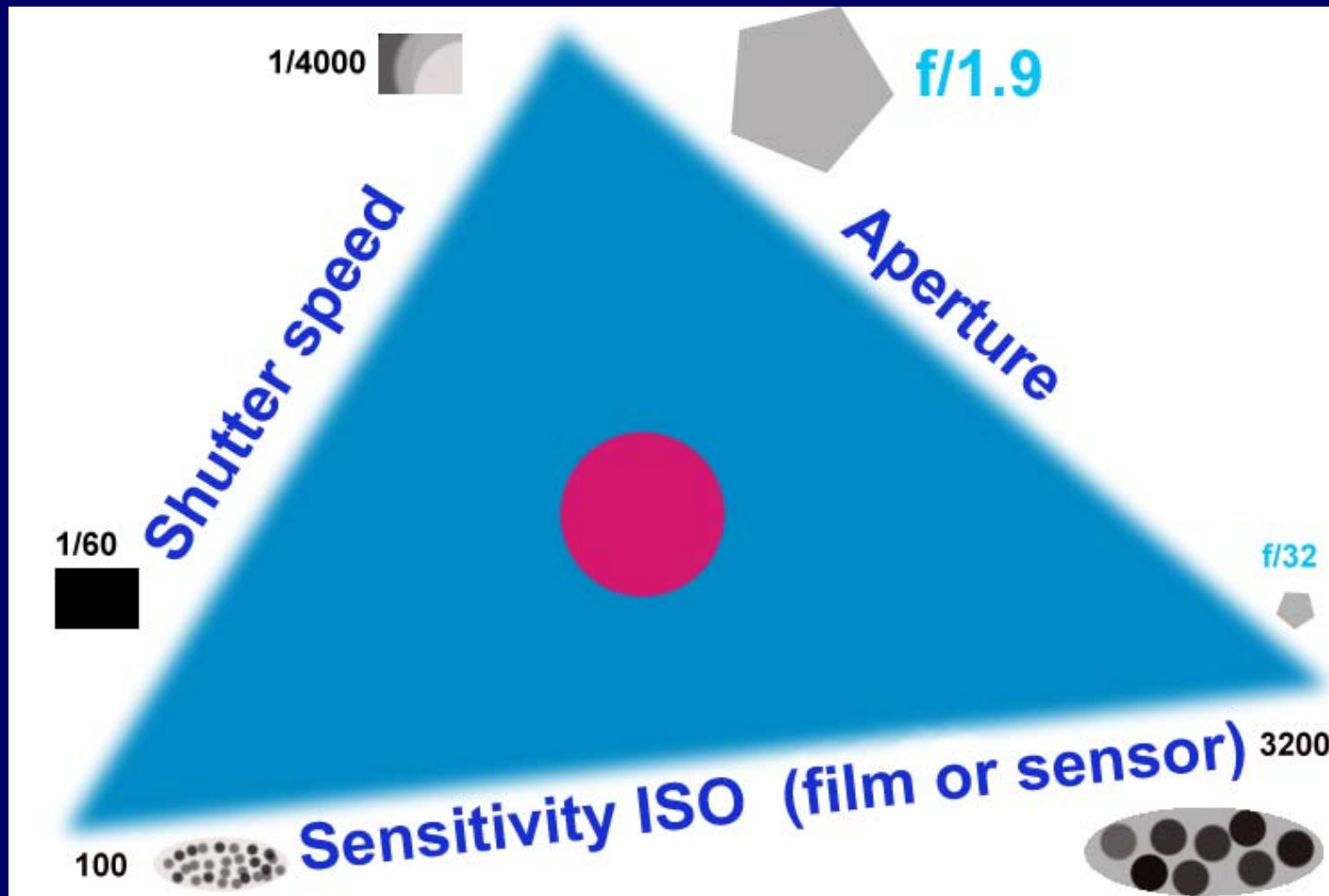


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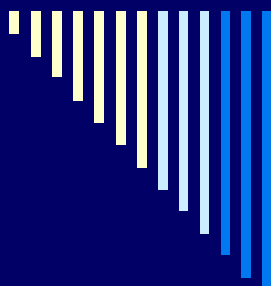
# What do you want?

- To record everything you see?
- Focus on one element ?
- Isolate a subject?
- Tell a story?
- Create an abstract?
- You decide, but use the technology to get the results you want

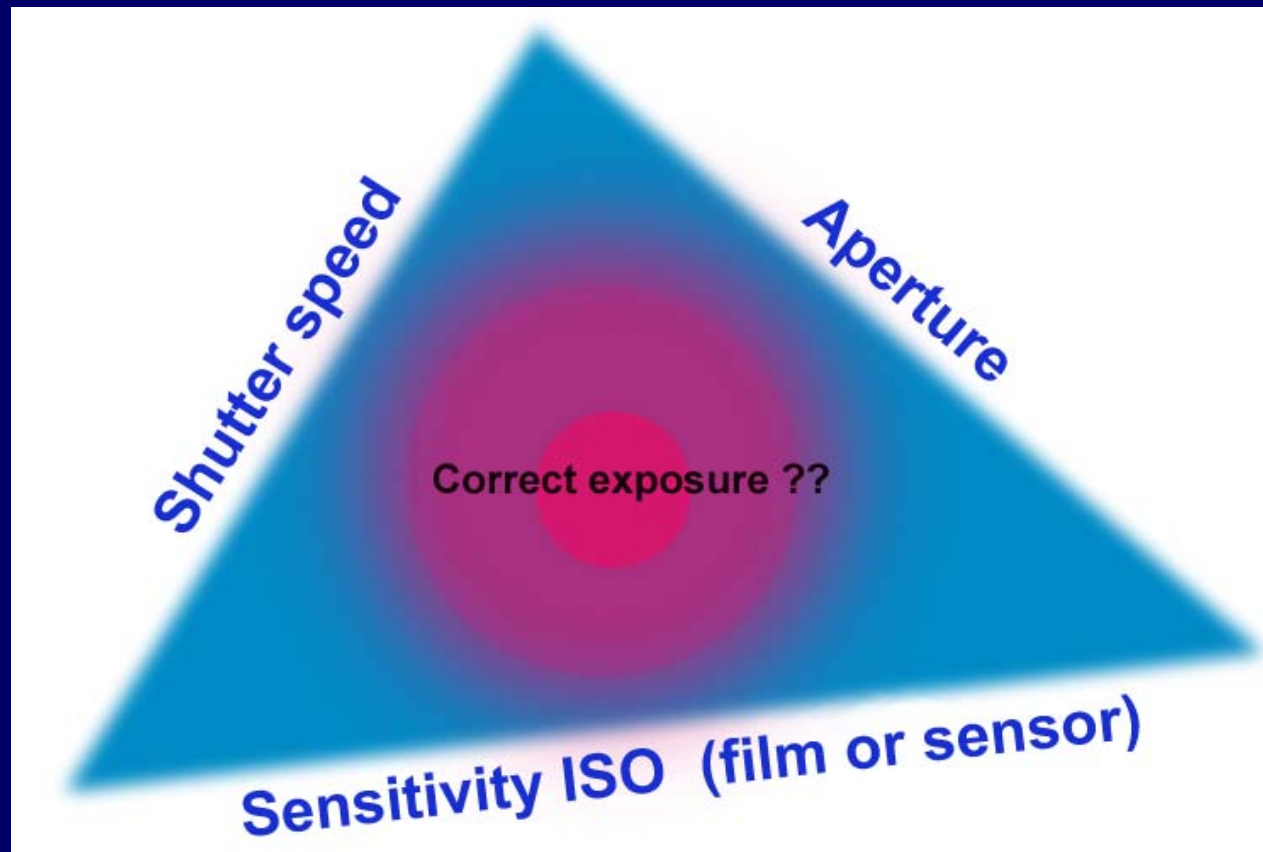
# The photographic triangle



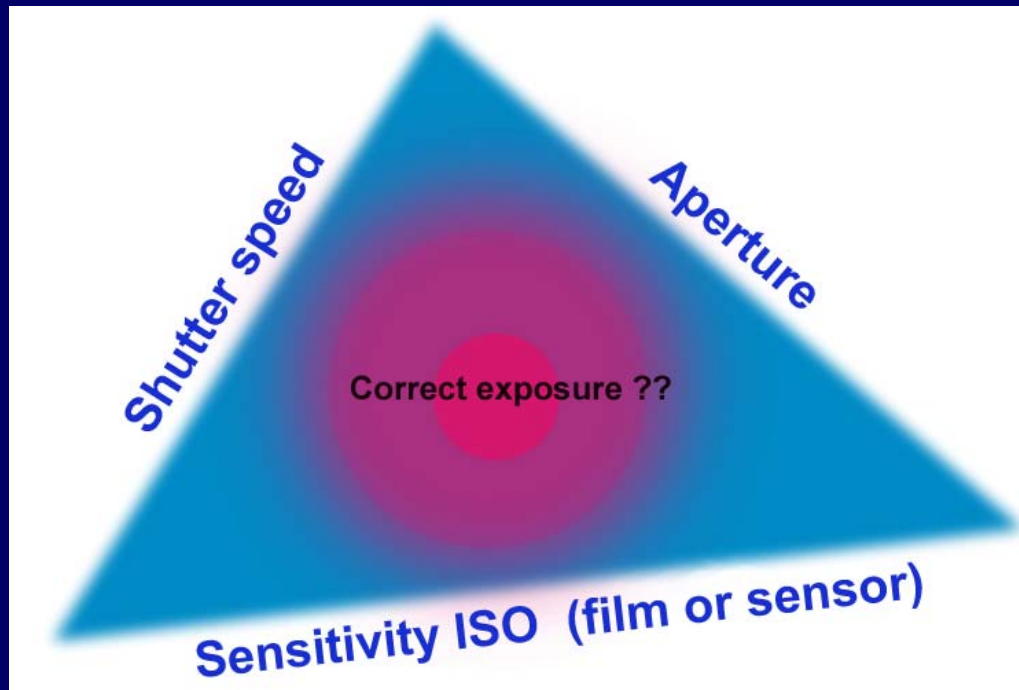
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Yes but what is a correct exposure?



# Anywhere in the triangle



If it's the image you want!! . And if you can actually record a usable image?



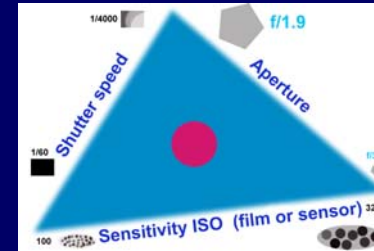
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# The camera triangle

- The manufacturer; Canon, Pentax etc, sets the triangle of performance
- Apertures from f/1.9 to f/38 (Box Brownie: fixed f/11)
- Shutter speed hours to 1/4000 (BB: 1/35 or 1/50)
- Sensitivity 50 to 3200 (depends on film or sensor used, ISO 100?)

Today's cameras are limited only by your available cash to spend on lens and body!!

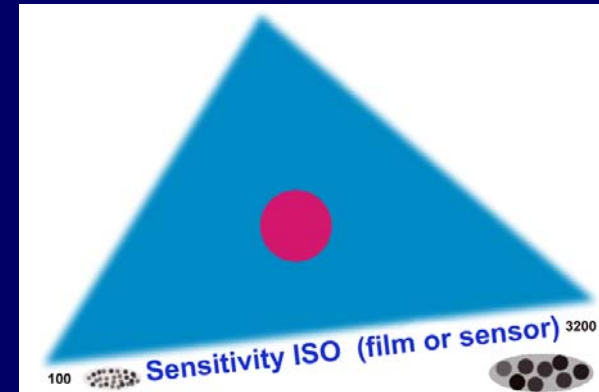
# Auto setting



- ❑ The camera makes the best guess, but it may not be what you want.
- ❑ Most of the time auto produces an acceptable rendition.
- ❑ Often baffled by bright points of light - sun, street lights, reflections, stars, fireworks, headlights.
- ❑ Might opt for safe results in high light values or low light values by varying ISO setting. (Your dusk scene turns into strangely lit noisy day).
- ❑ Sometimes gives up..so the image can't be recorded by the sensor..or is very, very dark or very, very light.

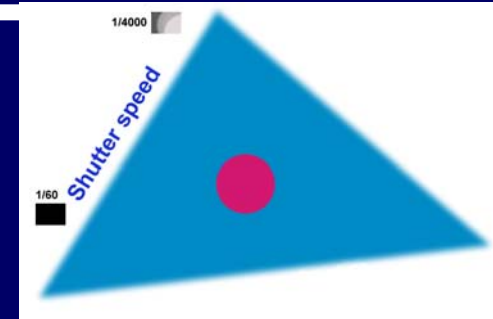


# Sensitivity

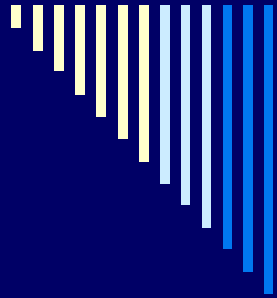


- 100 - low noise - good for detail, best results with high light values
- 3200 - lots of noise but good for low light and speeding objects

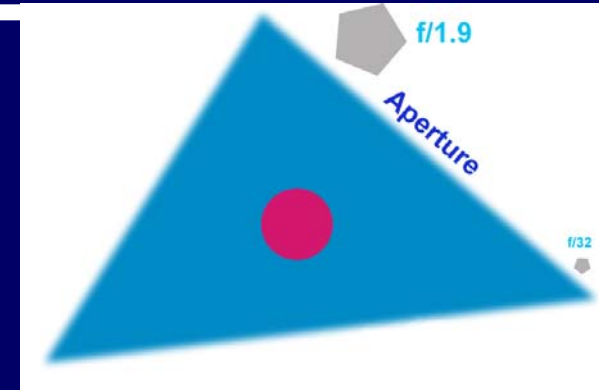
# Shutter speed



- 1/60 usually avoids camera shake for a standard lens
  - *zoom lens require higher speeds; 1/100 for 100mm lens setting, 1/250 for 250mm zoom etc*
  - anti-shake devices are not always perfect; find their limits
- 1/200 flowing water 'frozen'
- 1/4000 fast moving traffic stopped!
- But you may want creative blur, so slower speeds are acceptable depending on what you want



# Aperture

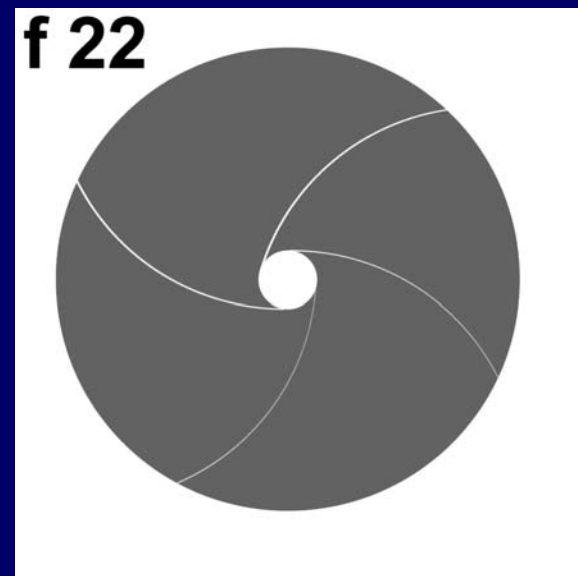


- Controls the volume of light that reaches the sensor
- Wide apertures (F8 and below) have relatively small depths of field
- Narrow apertures (f22 +) have relatively large depths of field
- Low light conditions favour wide apertures
- Bright light conditions favour small apertures

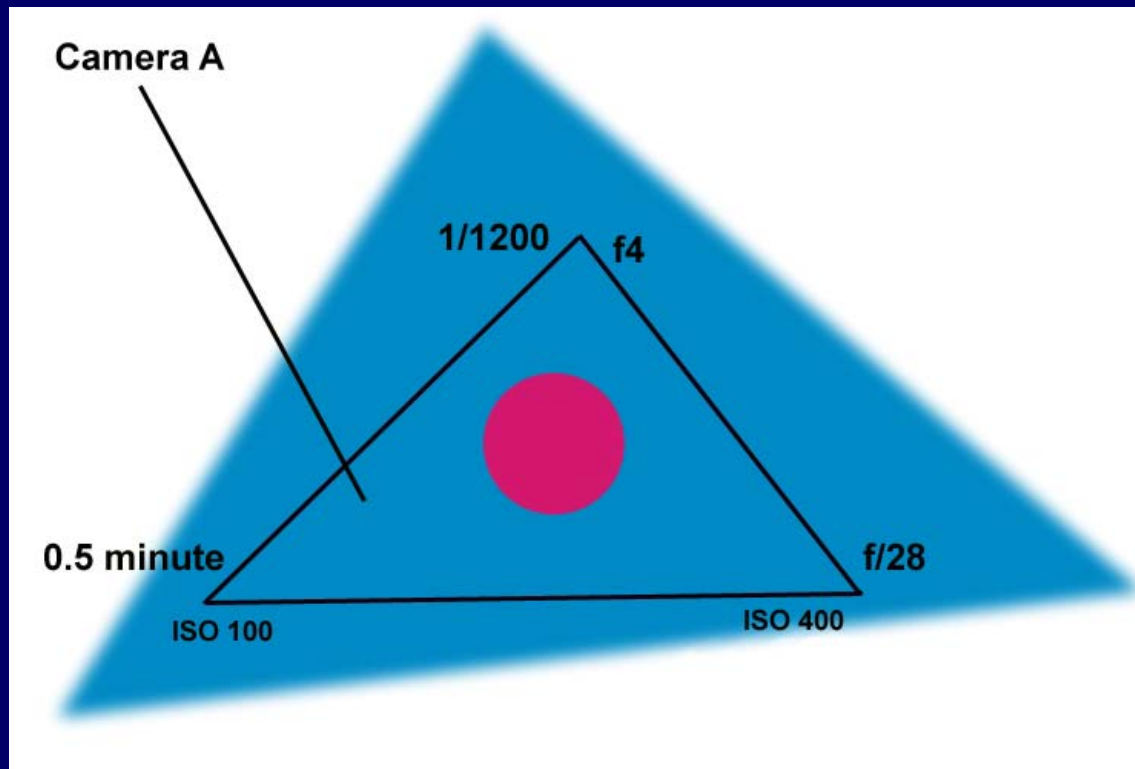
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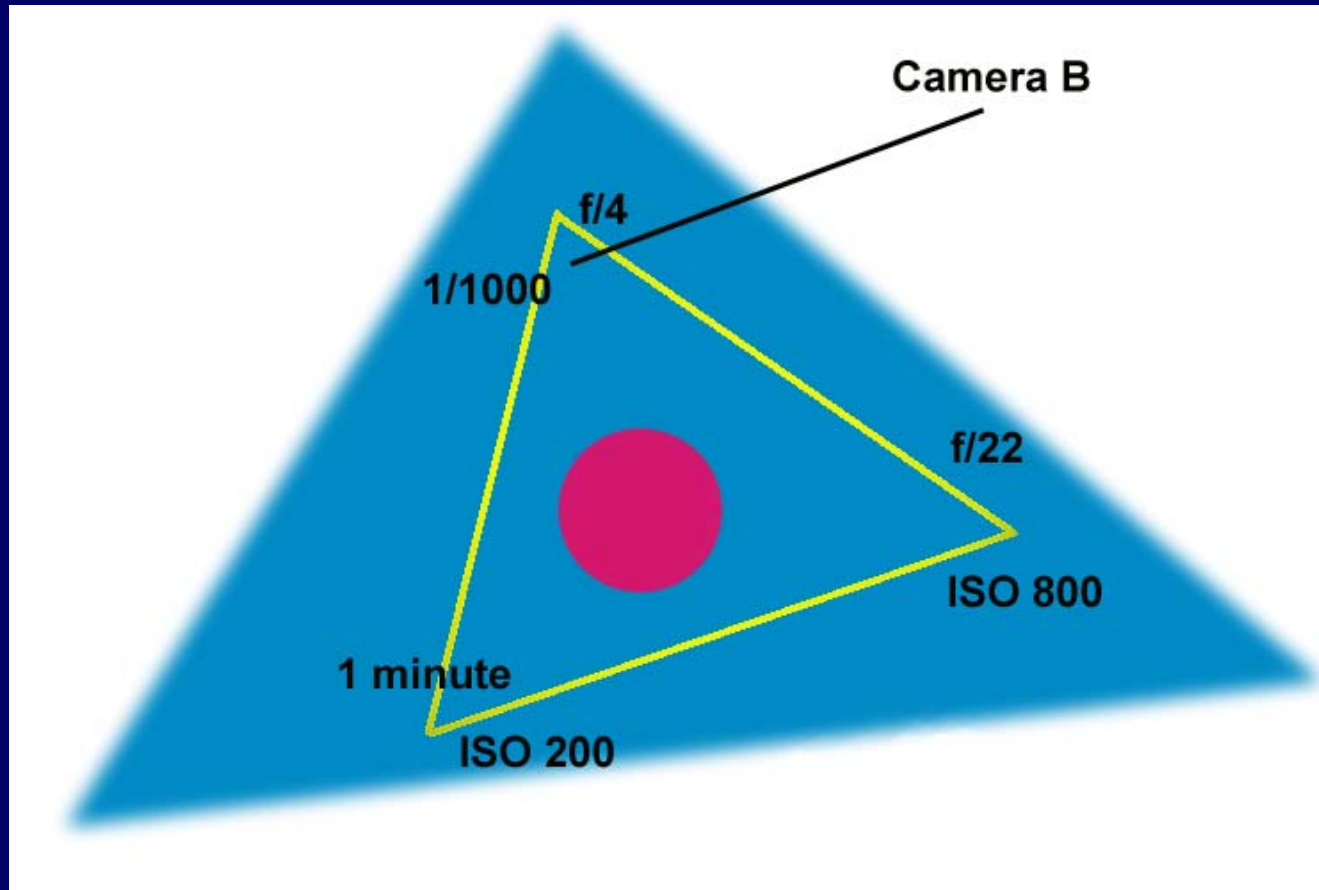
# Aperture (iris mechanism)

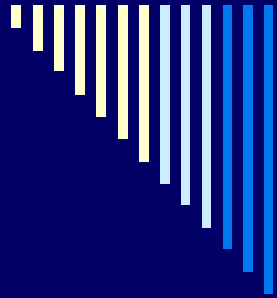


# Camera/lens A (SLR)



# Camera/lens B (SLR)





# Fixed lens compacts

- Designed to have great depth of field
- This ensures sharpness in most images
- BUT, BUT.....
- Difficult to use selective depth of field

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# Using depth of field

A wide aperture  
f4 emphasises  
the thistle seed  
and creates a  
blurred  
background





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# Aperture affects depth of field

- Small aperture f16 to f32 & beyond
- Large depth of field



- Large aperture f1.9 to f5.6
- Small depth of field



Quite often, but not always f5.6 to f16 produce acceptable results

Don't forget a zoom lens can also compress depth of field!



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# Sensitivity

- ISO 100-400 slow reactions, good detail, low noise
- ISO 800-1600 fast reactions, poor detail and sometimes poor colour, noisy!
  
- Lots of light ..choose 100-400
- Night and low light ..choose 800 and above

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# ISO 100



- ISO 100 good detail and colour

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# ISO 800



Fast moving  
objects, but not  
much light

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## ISO 50 to 100



Fine detail,  
important colour

Tripod  
mandatory

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# ISO1600



Low light,  
must catch  
the picture