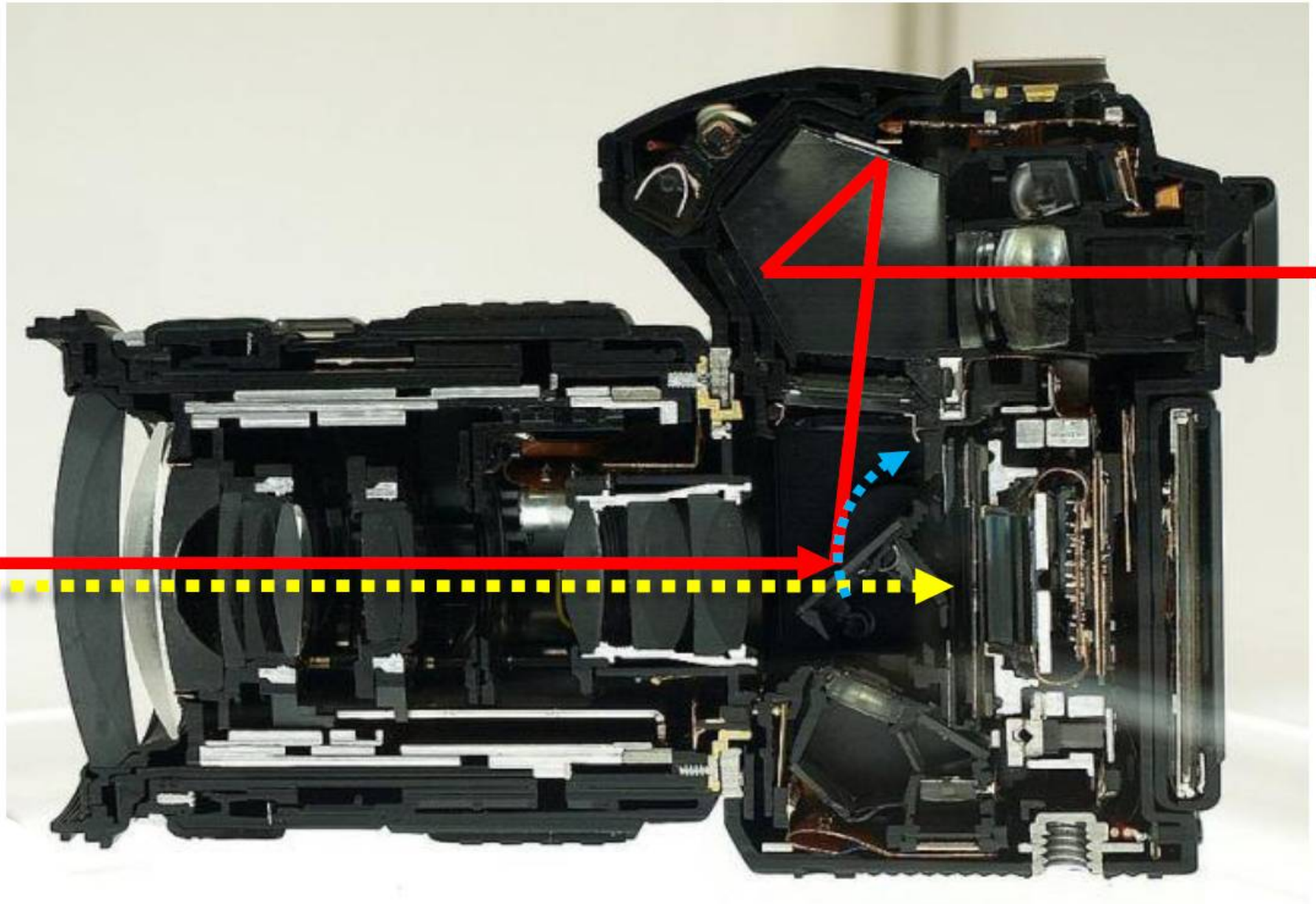
Camera Basics



Some material in this presentation comes from the URL below. Some is copyright Olympus Corp.

http://www.docstoc.com/docs/136722574/A-complete-DSLR-photography-Guide

... encourage and promote photography as an art form.

A disreputable photographer called McNeff

Was colour blind, palsied and deaf.

When asked to be touted.

The critics all shouted:

This is Art with a Capital F....

This will be more of a Technical session – Technical Art

Once upon a time a photographer was invited to have dinner at the home of a nice couple. During dinner the wife comments to the photographer “Your pictures are beautiful. You must have a great camera.” The photographer nods politely. After finishing dinner the photographer comments to the wife “That was a fine meal. You must have some great pots!

*Good tools **do** make the work easier*

I think you aren't giving enough credit to your gear – the gear does make a huge difference. When people say "Great photo, you must have a really good camera", I don't know why you are interpreting that as them saying you are useless. To me it means, "Wow, you have an awesome camera that allows you to capture your artistic vision"

I just respond with, "Nah, not really, it's only a camera. It's just very lucky to have me behind it" and then try and slip them a business card.

So why is a camera important?

Most of these features **should** be obvious to you.

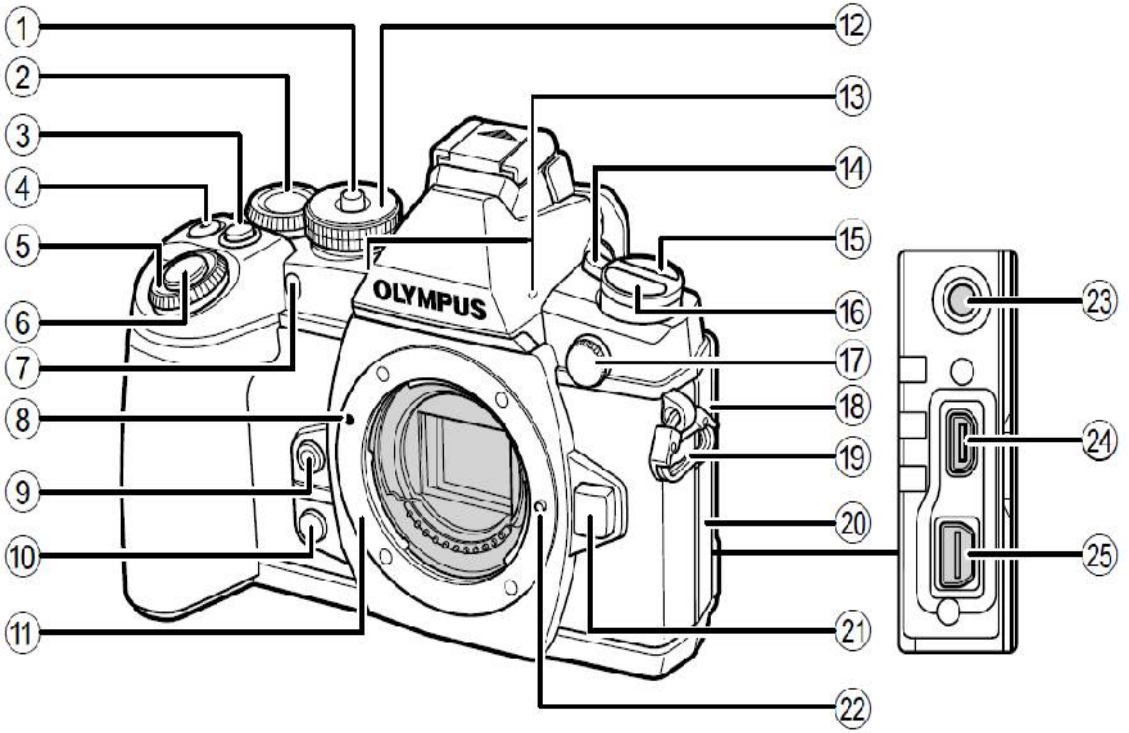
We will only really talk about the non-obvious and How they affect your Art....

4. Depth of Field Preview –This button stops down the lens' diaphragm to the chosen aperture so you can preview the DOF -with digital cameras you can now check the DOF on the image display once you have taken the shot instead.
5. Lens Contact points -The points are how the camera ‘knows’ which lens you are using.
6. Mirror -The mirror lifts up when you press the shutter to take a photo, it is in front of the sensor. More later about mirrors....
7. Hand Grip
8. Shutter Release -This button ‘takes’ the shot. Half press it to focus.
9. Focus Assist Beam -In darker settings the focus assist will send out a beam of light so the camera can ‘see’ to focus

Modern DSLRs will have a plethora of buttons to make life easier....

Some newer cameras actually have touch screens on the back like a Mobile phone....

Many newer cameras let you re-define what each button does.



1. Mode dial lock.....P. 18
2. Rear dial*1 (◎) .....P. 23, 38–41, 56, 58, 105
3. **Fn2** button .....P. 23, 49
4. ☑/◉ (Movie) button.....P. 33/P. 22, 99
5. Front dial*1 (☎) .....P. 31, 38–41
6. Shutter button .....P. 21
7. Self-timer lamp/AF illuminator .....P. 55/P. 91
8. Lens attachment mark .....P. 14
9. (One-touch white balance) button .....P. 57
10. (Preview) button .....P. 39
11. Mount (Remove the body cap before attaching the lens.)
12. Mode dial .....P. 18
13. Stereo microphone .....P. 64, 74, 87
14. **ON/OFF** lever .....P. 16
15. **AF** (AF/Metering mode) button (/ settings*2).....P. 50, 71, 72, 73
16. **HDR** (Sequential shooting/Self-timer/HDR) button (Bracket settings*2) .....P. 55, 37, 80
17. External flash connector .....P. 132
18. Microphone connector cover
19. Strap eyelet.....P. 9
20. Connector cover
21. Lens release button .....P. 14
22. Lens lock pin
23. Microphone connector (Third-party commercial microphones can be used. ø3.5 stereo mini-plug)
24. HDMI connector (Type D).....P. 101
25. Multi-connector ..... P. 101, 113, 116

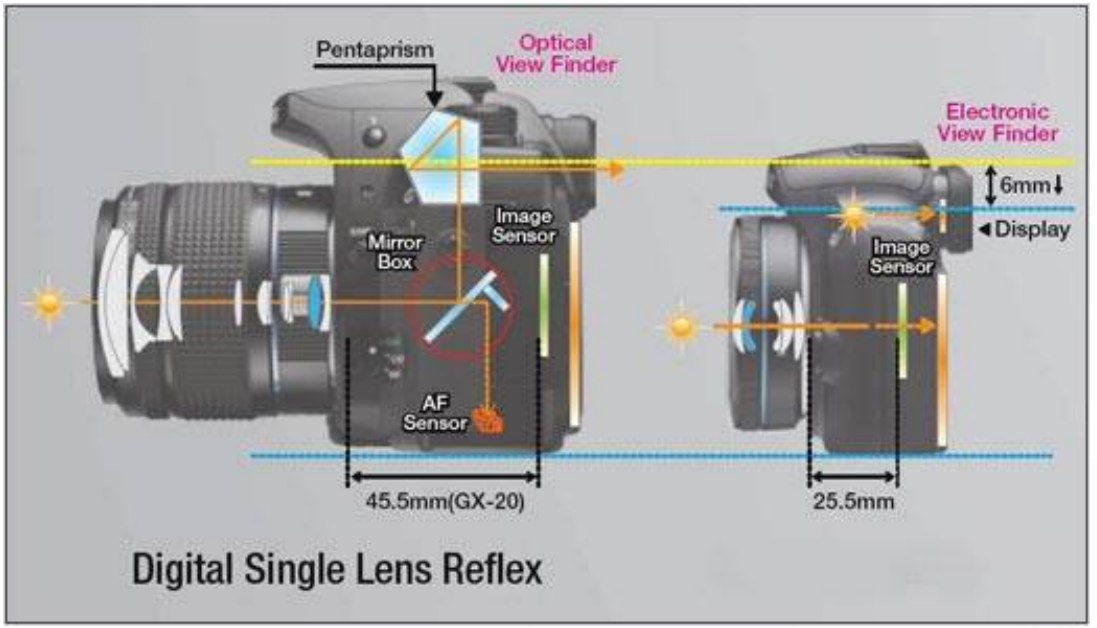

SHOOTING MENU
Reset shooting menu
File naming
Role played by card in Slot 2
Image quality
Image size
JPEG compression
NEF (RAW) recording
Nikon

Nikon

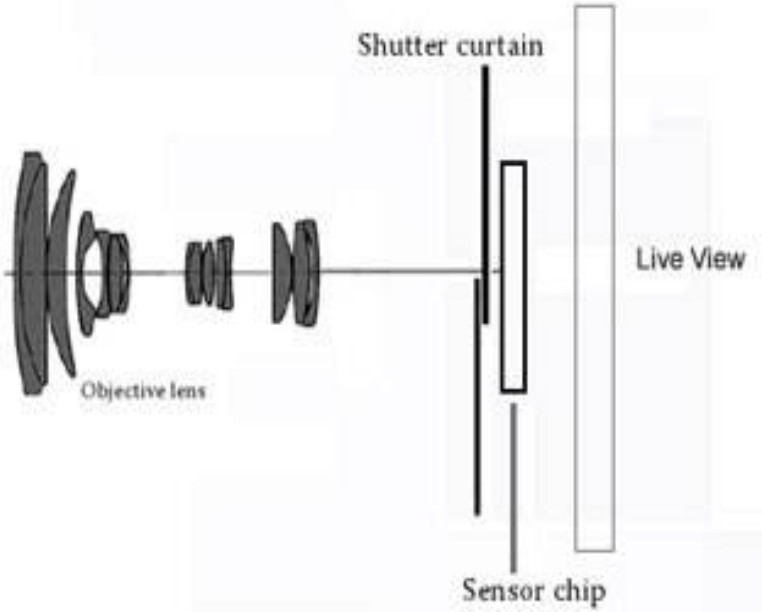
How it all works.

Ring the bells that still can ring
Forget your perfect offering
There is a crack,
a crack in everything
That's how the light gets in.
That's how the light gets in.
That's how the light gets in.

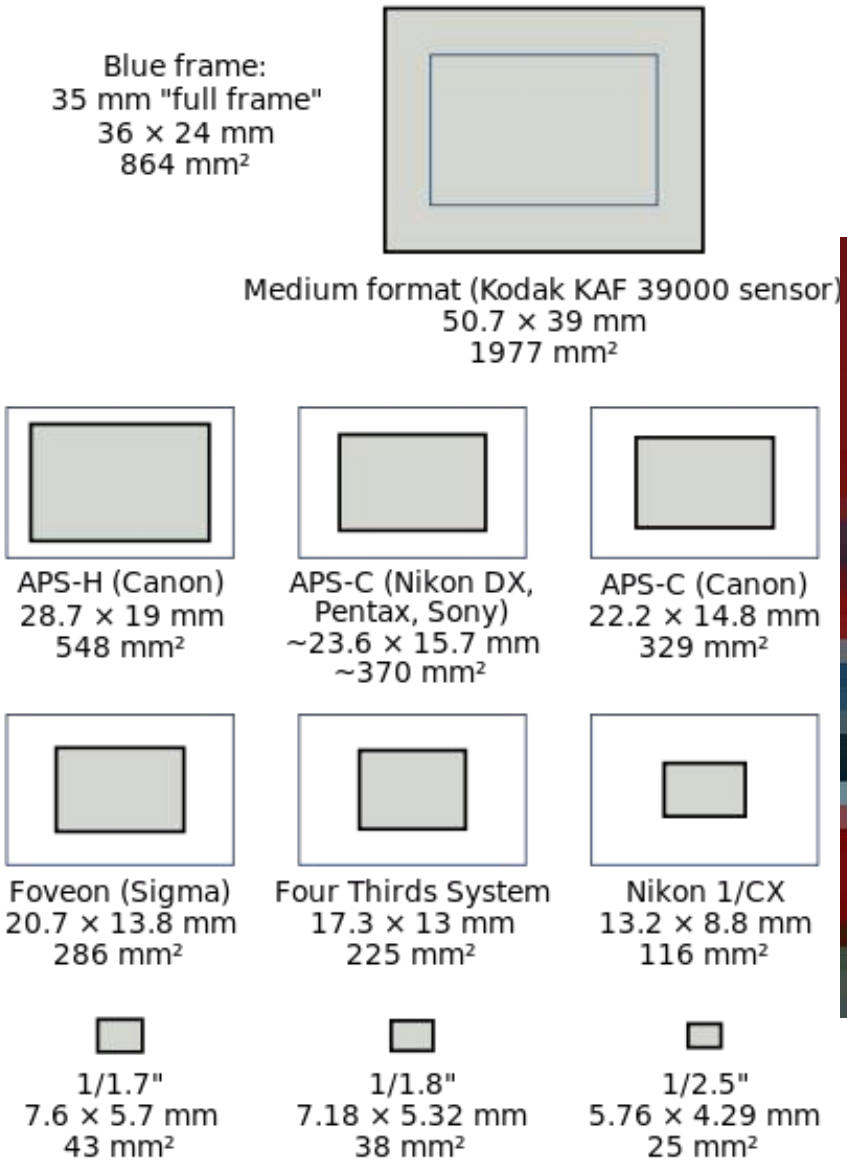
Leonard Cohen



The light comes through the lens, reflects off the mirror, gets bounced around the pentaprism and is then seen via the viewfinder.
Note: the mirror is not a perfect mirror – how does the camera get exposure information otherwise?
Why do we need the mirror?



Where does the light go?



Sensors:

·What size?

·What dimensions?

·What else can you do with the sensor?

6 megapixels- the best compromise between number of pixels and image noise. As shown here: the increase of details with more pixels and the increase of errors if the pixels become too small.

Yeah, but when!!!

- Always turn your camera OFF before changing lenses. If left on, the static build up can attract dirt onto the sensor.
- Use a 'blower' to remove small particles of dust from the sensor...never prod or directly touch it as you could do expensive damage!
- Unless you are experienced, pay a professional to clean your sensor. ($60-$100 each time so try to keep it clean)
- A quality UV filter will protect your lens.
- Protect the camera in bad weather and sandy/dusty conditions.
- If shooting on the beach, wipe away any salt spray, do not leave it on the camera.

This is rubbish – buy an Olympus!!!

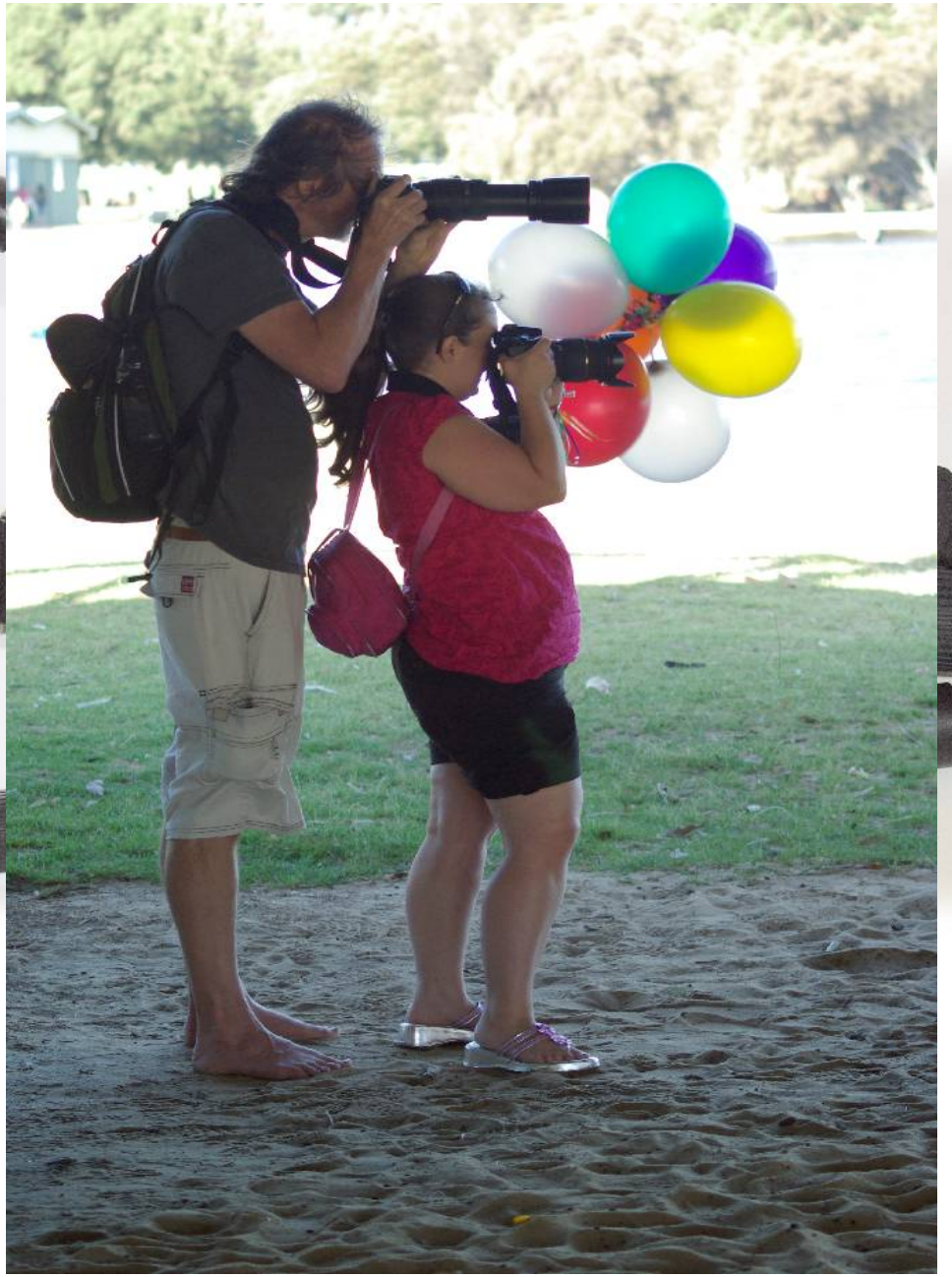
Holding the camera and lens

You can only hold the lens so steadily...

The rule of thumb to determine the slowest shutter speed possible for hand-holding without noticeable blur due to camera shake is to take the reciprocal of the 35 mm equivalent focal length of the lens. For example, at a focal length of 125 mm on a 35 mm camera, vibration or camera shake could affect sharpness if the shutter speed was slower than 1/125 second.

On a 400mm lens, it would be 1/400th of a second. See why the Bird snappers have many technical problems.

Buy a body with Image Stabilisation.
This will give you 3-5 stops of improvement == 8-32 times longer exposure when hand Held.



Holding the camera and lens

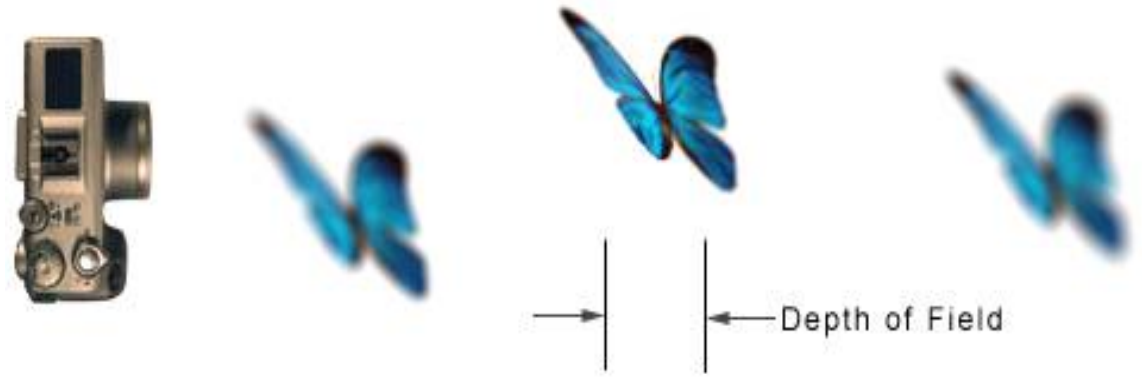
You can only get so much in focus from a lens...

The rule of thumb is that as you stop down, you get more depth of field.

But you might start getting diffraction problems.

As you have a wider angle lens, you get more depth of field. Hence why with a fish eye lens, almost everything is in focus. And with telephotos, there is a smaller depth of field – Bird snappers get screwed again.

And the closer you get (ie macro), the less depth of field you seem to get.




50mm

Raw vs. Jpeg

- I disagree with the experts here. Are you really telling me that Adobe knows more about the technical specs of an Olympus Sensor than the Olympus programmers???
- So why use Raw? (Why do I ALWAYS use Raw as well?)
- ????