



# Photography

A short history

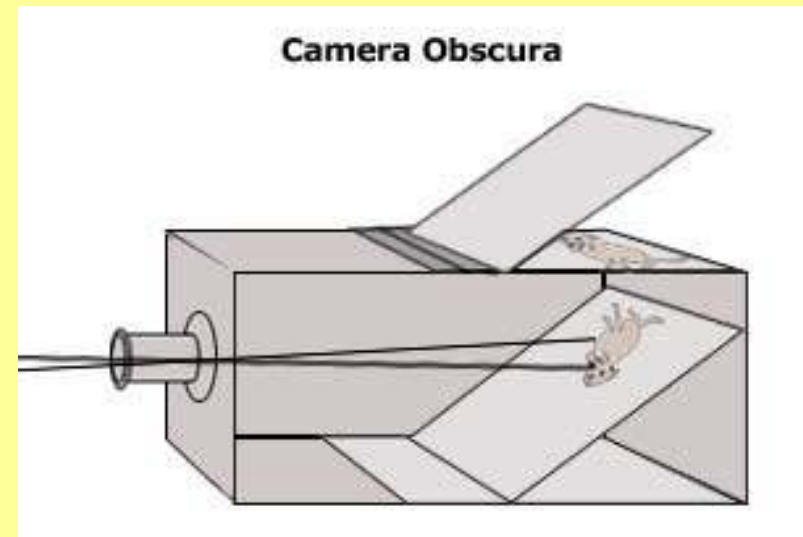


# What is photography?

- The art of producing images of objects on photosensitive surfaces.
- The art, practice or occupation of taking and printing photographs.

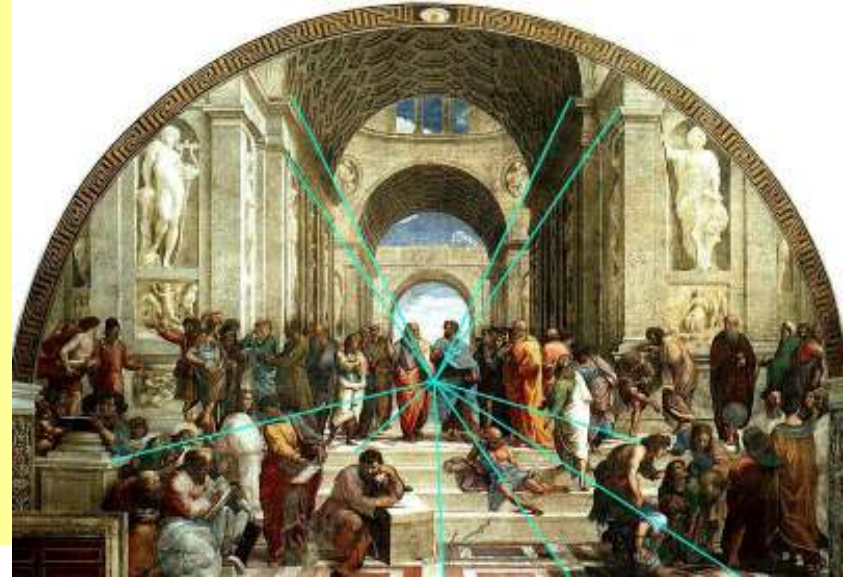
# Renaissance times (1500's)

- Camera Obscura, Latin for “dark room,” refers to a dark box in which light rays from an object pass through a small hole or lens to produce the image on the plate or film contained inside. When the light rays create the image within the camera obscura, the image is generated upside down.

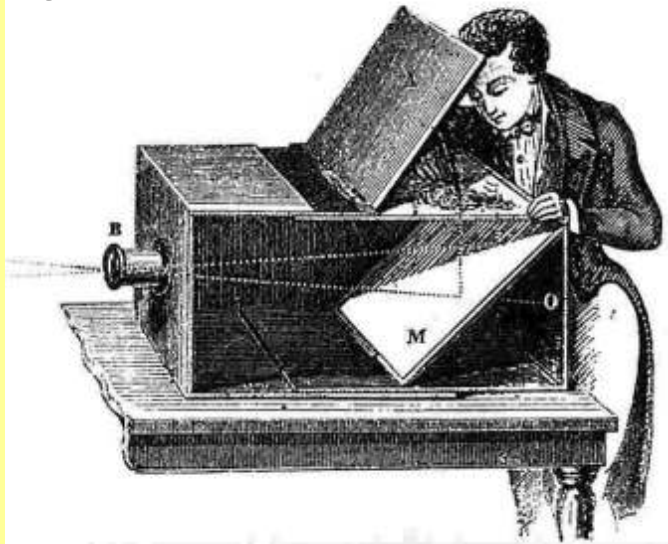


# Renaissance times (1500's)

- Renaissance artists used to trace the image produced by light passing through the tiny hole and build their pictures on it, especially to form *perspective*.

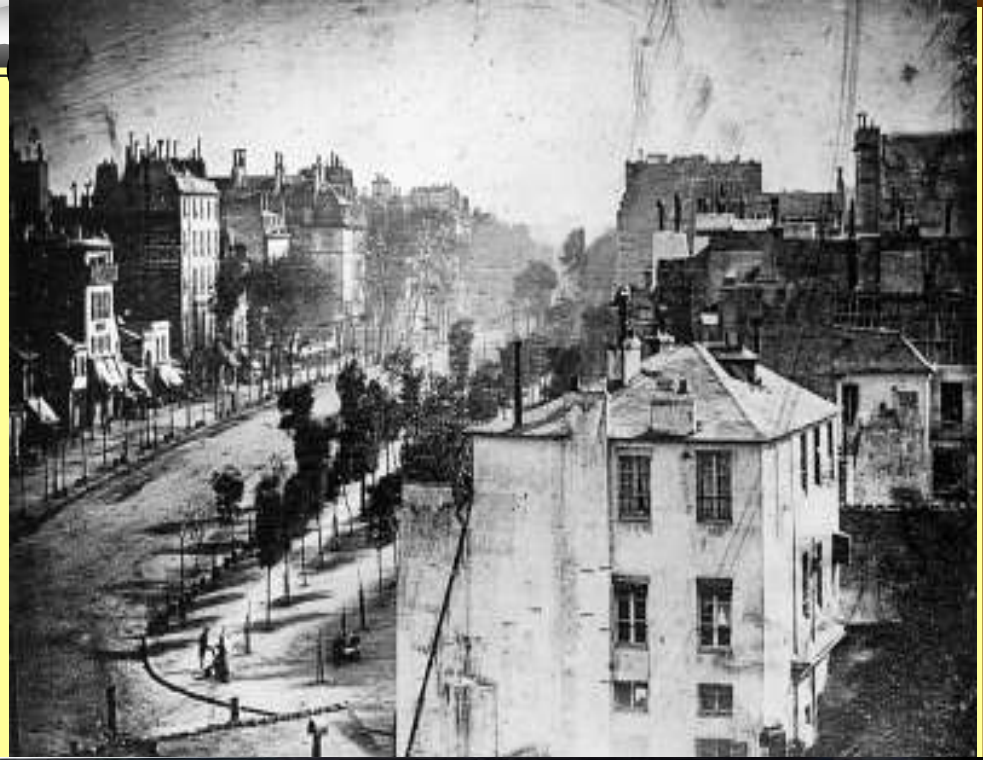


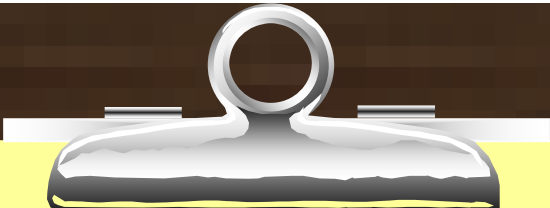
School of Athens –  
Raphael





# What do these photos have in





## Film (1860s)

- Eastman Kodak developed the film, with the silver halide (light sensitive) chemicals on plastic paper.
- When exposed to light, the silver halide crystals formed a latent image, which was further developed by applying other chemicals to it.



# Digital

- Digital photography uses an electronic image sensor (the CCD) to capture light.
- Digital photography allows a lot more editing than film photography.





# Digital

- 1<sup>st</sup> CCD invented in 1973 by Fairchild.
- 1<sup>st</sup> experimental digital camera by Eastman Kodak 1975.
- 1<sup>st</sup> commercial digital camera – the Logitech Fotoman (1990)





# Camera Types

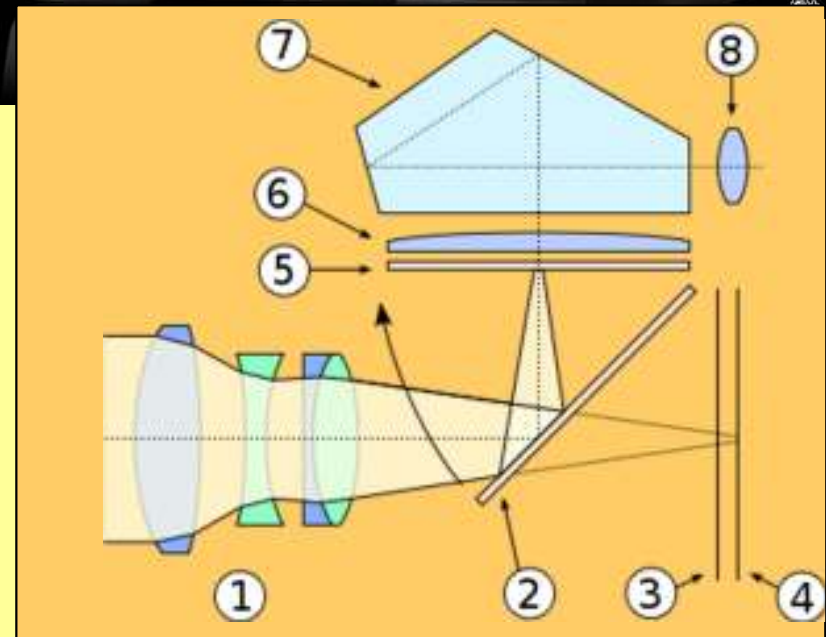
# Point and Shoot cameras

- Also called compact cameras.
- Mainly small cameras
- Designed for people who want to take pictures but do not want to have a complicated tool.



# SLR and DSLR

- SLR means Single Lens Reflex.
- SLRs are generally larger cameras.
- Their main ability lies in accepting a very wide range of lenses.
- Tend to produce much better photos than compact cameras but cost a lot more.



# Mirrorless Cameras

- Same image quality as most SLRs
- Cheaper than SLRs
- Much smaller
- Can use almost all lenses via adapters

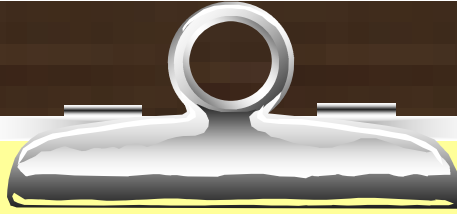


# Advantages of different camera types

	<b>Compact camera</b>	<b>Mirrorless</b>	<b>DSLR</b>
<b>Lenses</b>	Small, light, but lower quality lenses	Can accept almost all lenses ever made	Great lens versatility
<b>Ease of use</b>	Generally simple to use	Relatively complicated to use	Complicated to use
<b>Image quality</b>	Good to poor	Very good	Very good
<b>Speed in use</b>	Slow to good	Fast	Very fast
<b>Pricing</b>	Cheap to moderately expensive	Expensive	Expensive to extremely expensive
<b>Flexibility (Accessories)</b>	Very little (generally)	Moderate (increasing by the day)	Vast range of accessories

# Advantages of different camera types

	<b>Compact camera</b>	<b>Mirrorless</b>	<b>DSLR</b>
<b>Viewfinder</b>	Uses the LCD at back. Susceptible to strong sunlight	Back LCD/High resolution Electronic Viewfinder	Optical viewfinder (generally best)
<b>Live view focus</b>	Fast	Fast	Slow to fast (depending on model)
<b>Video Capture</b>	Good, with auto focus	Very good	Good to very good (on units equipped with it.)
<b>Size</b>	Small, easily portable	Small, but fit only in large pockets	Large cameras



# Main camera manufactures

**Canon**



**SONY**

**Panasonic**

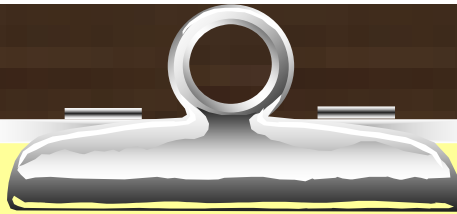
**OLYMPUS®**

Your Vision, Our Future

**PENTAX**

**FUJIFILM**





**Kodak**

Other smaller producers

**CASIO**

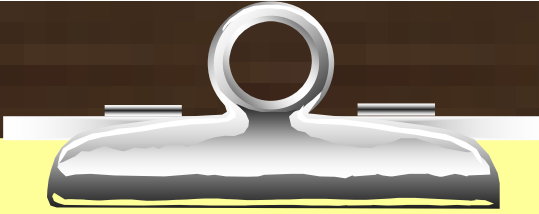


**RICOH**



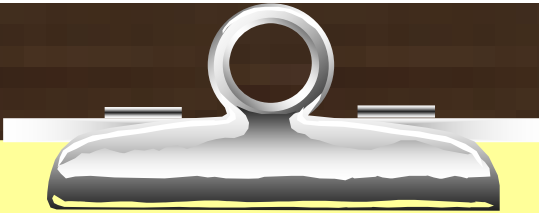
CAMERA

**SIGMA**



# Physical Camera parts

- Top of camera controls
- Rear camera controls
- Front controls
- Ergonomics
- Touch screen/ Screen/Viewfinder
- Built in flash
- Hot shoe
- Microphone
- Speakers
- External connectors
- Ports
- Memory Card compartment
- Battery compartment
- Tripod shoe
- Lensmount

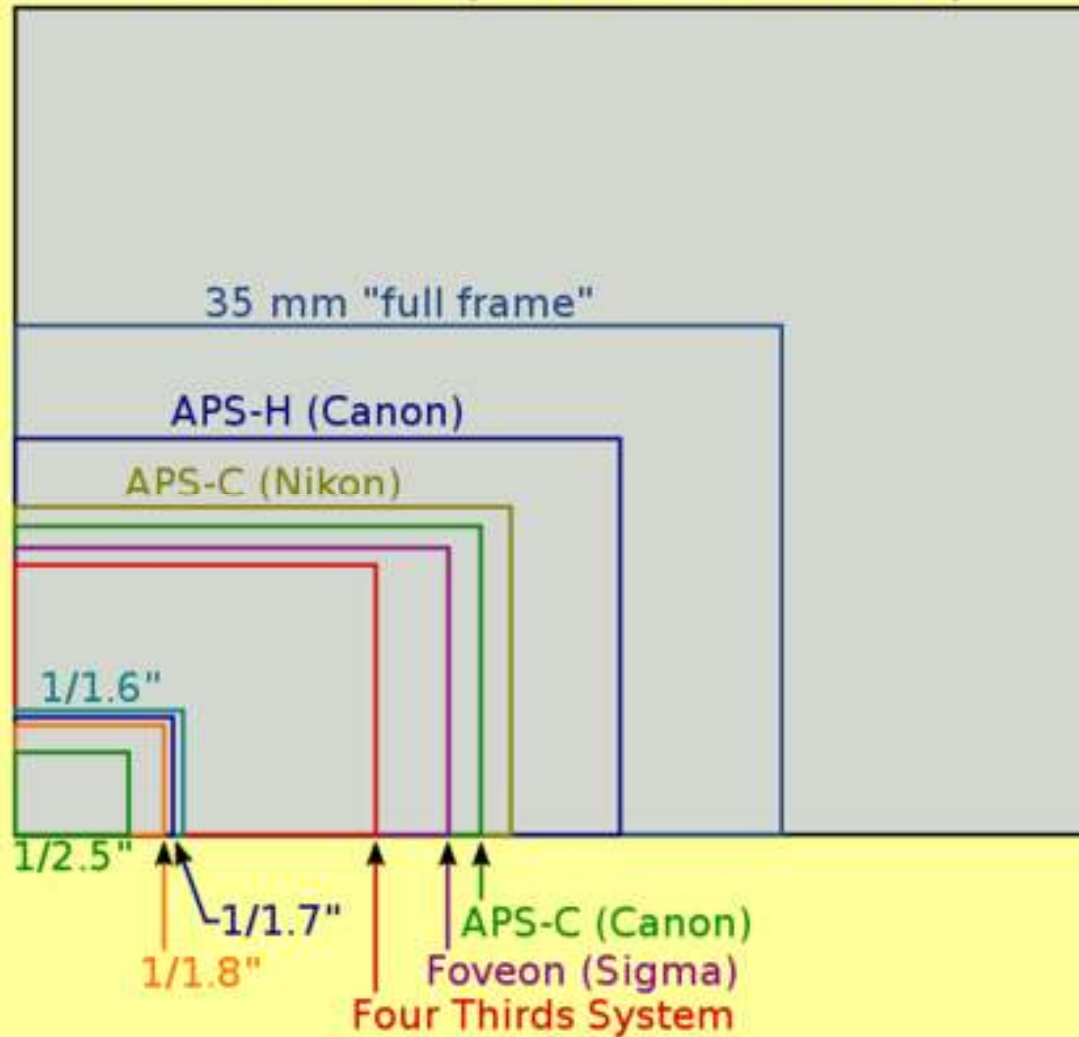


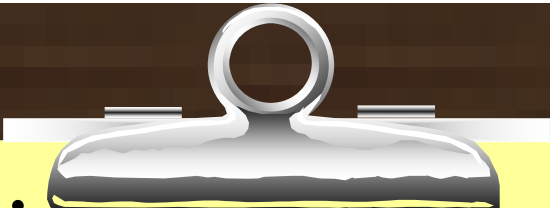
# Internal equipment

- Metering system
- CCD sensor
- Dust cleaning equipment
- Processor
- Image stabilisation
- Autofocus
- Flash system

# Sensor sizes

Medium format (Kodak KAF 3900 sensor)





# Picture output

- JPEG

- RAW



# Top of camera controls



# Rear camera controls



# Front camera controls

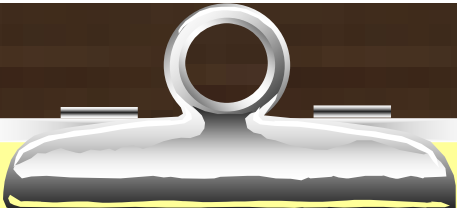
- Popup flash button
- Bracket button
- Infra-red reciever





# Lens mount





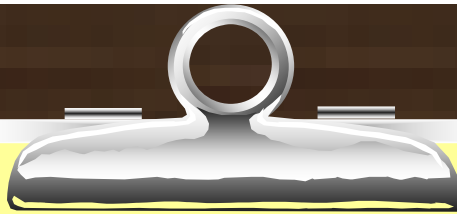
# View finder



Canon EOS-1Ds Mark III (0.76x)

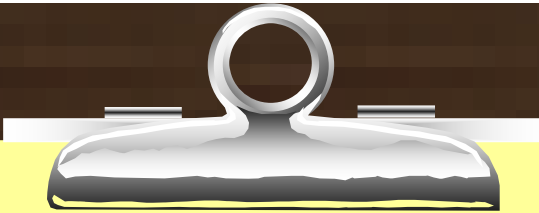
Olympus E-5 (0.58x)

Nikon D7000 / D300S / Canon EOS 7D (0.63x)



# LCD





# Lenses

- All cameras must have a lens.
- Lenses are measured by their focal length in mm.
- There are many different types of lenses

# Lens types

Zoom vs Prime

Ultra wide angle

Wide angle

Normal lens

Telephoto

Prime Lenses



## Ultra wide lens

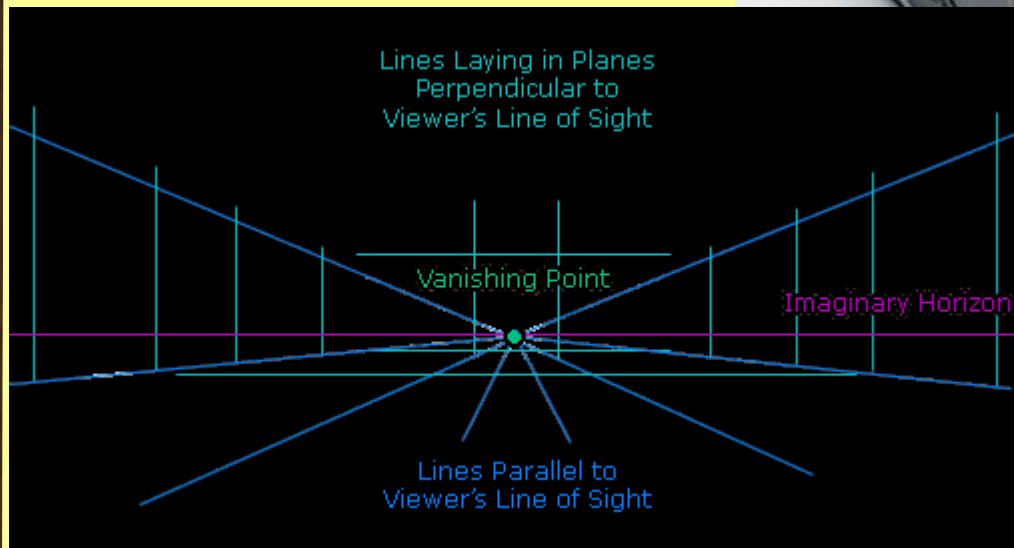
Ultra wide lenses: considered ultra wide if their focal length is shorter than the short side of the film/sensor they are imaging on e.g. 19 mm



## Wide angle lenses

Useful for architecture photography

Also useful for landscapes and interior photography



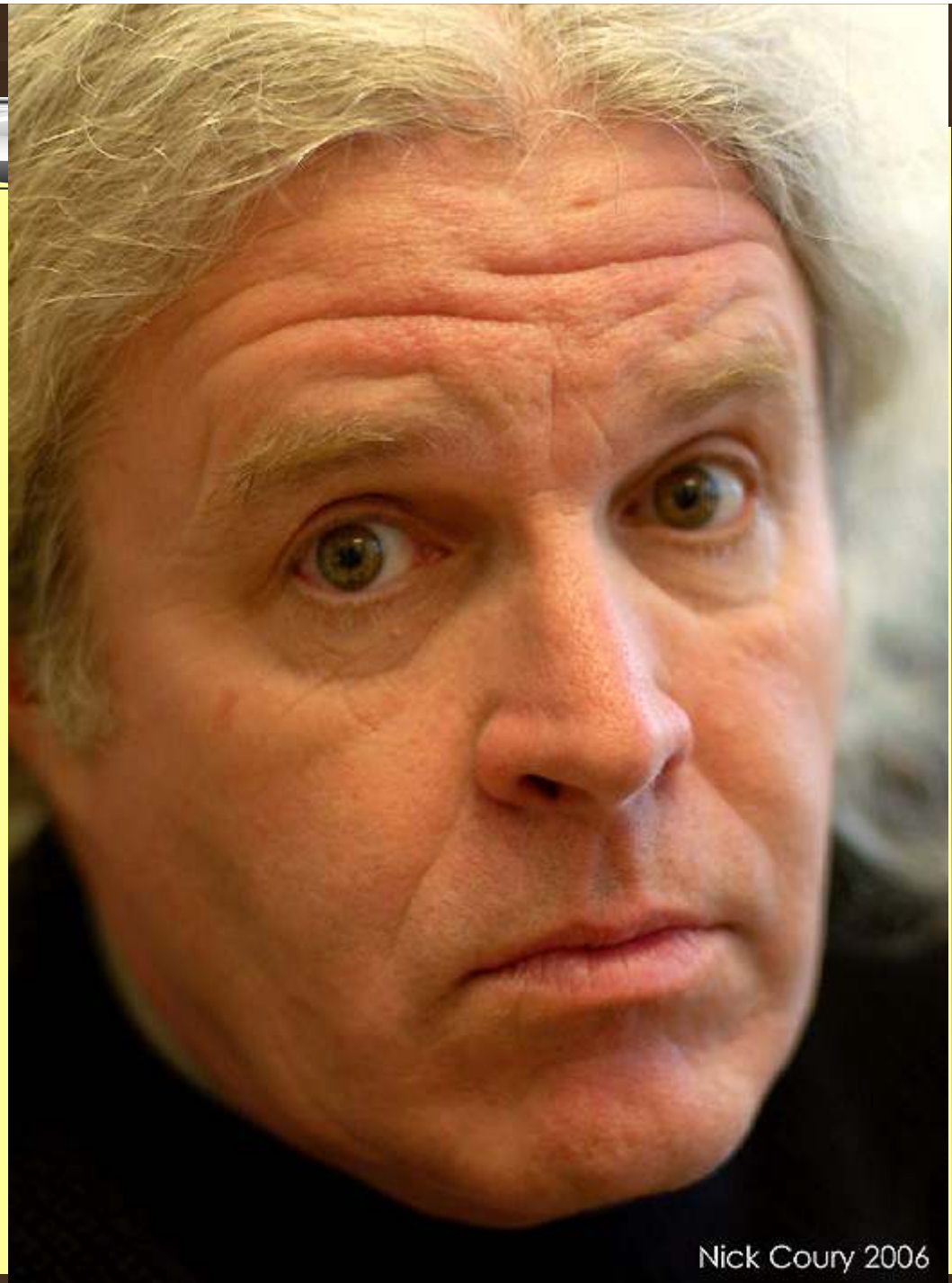
# Normal lens

Also called standard lens.

Mainly produced with a focal length of 50mm

Should project the same image as our eyes see it.

Most manufacturers have a multiple types of this lens.





## Telephoto lens

Telephoto lenses are considered to start at 70mm.

They are generally the largest lenses.

They can extend up to 500 mm.

They are used to flatten the image and to create a large amount of blurring behind the subject.

Their downside is the heavy weight and their price.





# Prime lenses

Lenses which have just one focal length.

Tend to have extremely high image quality

Much lighter and smaller (pancake lenses)

Mostly give excellent results in low light.

Are expensive for one focal length



# Compact cameras

Compact cameras come with various focal lengths

Beginner models usually sport a 3x lens, 37mm – 111mm

Can range up to 24mm – 360mm in the travel zoom segment

Ultrazoom compacts can have a focal range of 24mm – 1000mm



# Compact Camera types

Beginners



Travel zooms



Waterproof compacts



Enthusiast



Bridge Camera



# Compact camera picture quality



# Memory Cards

SD Card

Compact Flash

MMC

Memory Stick

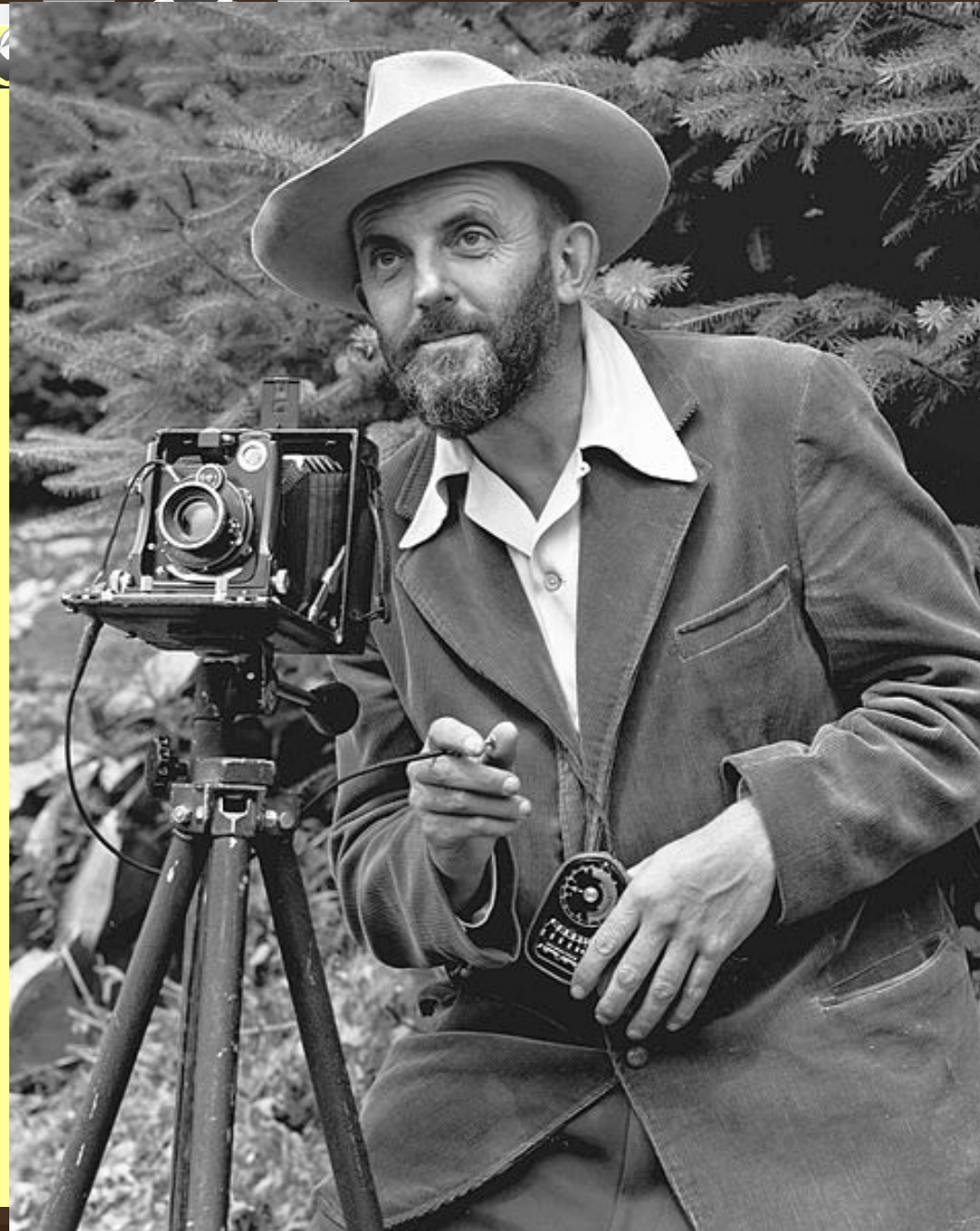
XD

Smart Media



**Important Photographers**  
**Ansel Adams (1902-1984)**

Highly influential master of the monochrome landscape. Particularly famous for his images celebrating the beauty and majesty of Yosemite National Park and his 'Zone system' for accurately calculating exposure.








**Diane Arbus (1923-1971)**

American documentary photographer who produced emotionally intense and often disturbing portraits of people on the margins of society, including giants, dwarves, circus performers and transsexuals.







**Henri Cartier-  
Bresson (1908-2004)**

Innovative and highly influential French photojournalist and portrait photographer. He co-founded the Magnum agency and is forever associated with the term 'the decisive moment'.





**Annie Leibovitz  
(born 1949)**

Arguably the most famous portrait photographer working today, Leibovitz has photographed many of the world's major celebrities, often in elaborate and imaginative set-ups.



