

INTRODUCTION TO

PHOTOGRAPHY

History · Techniques · Styles · Photographers

Shutter Speed · Aperture · ISO · Exposure · Composition



A complete guide to the art and science of photography

PART ONE

The History of Photography

From Camera Obscura to Digital Revolution



WHERE DID THE WORD 'PHOTOGRAPHY' COME FROM?



Coined by Sir John Herschel, the term 'Photography' derives from the Greek words for light (phos) and drawing (graphe) — defining the language of the craft we know today.

A TIMELINE OF PHOTOGRAPHY

1400s – 1841

1400S

Camera Obscura

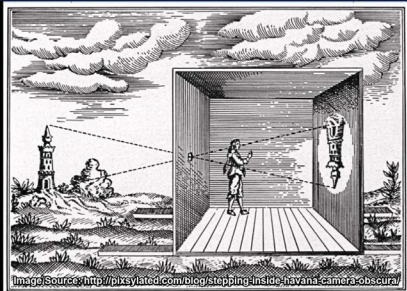
Light through a hole in a dark room projected upside-down images — used by Leonardo da Vinci.



1826

First Photograph

Nicéphore Niépce takes the world's first photo using Heliography. Exposure: several days.



First Sun Prints

J.H. Schulze used stencils, sunlight & silver nitrate to create temporary light-sensitive prints.

1717



Paper Negatives

Henry Fox Talbot creates silver chloride negatives & invents the two-step negative-positive process.

1835

The Camera Obscura principle — light projecting through a small aperture — laid the optical foundation for all photography to follow.

A TIMELINE OF PHOTOGRAPHY

1839 – 2002

1839

Daguerreotype

Louis Daguerre's process purchased by the French government — photography goes public.

1839

First Selfie

Robert Cornelius takes the world's first photographic self-portrait.

1878

Motion Sequence

Muybridge proves a galloping horse's hooves all leave the ground — inspiring Edison's motion pictures.

1888

Kodak Camera

George Eastman's first handheld camera sells to the public with 100 exposures.

1925

Leica 1

Oskar Barnack's Leica 1 lets photographers go fully mobile for the first time.

1949

First SLR Camera

The SLR camera arrives. In 1957, the first digital image is created from a scan.

1975

Digital Camera

Steve Sasson invents the Kodak Digital Camera — the spark of the digital revolution.

2002

Camera Phone

The first camera phone turns photography into a truly universal, pocket-sized activity.

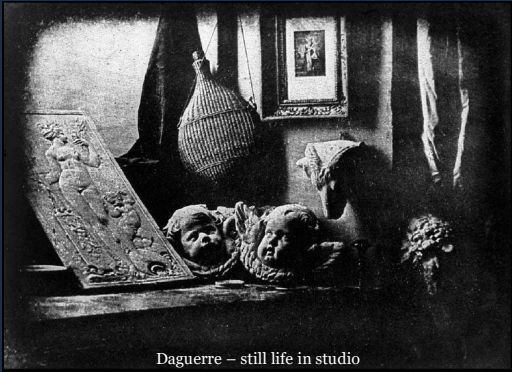
Photography evolved from multi-day exposures to instant smartphone images in under 200 years.

THE DAGUERRETYPE & PHOTOGRAPHY'S FIRSTS



Daguerreotype (1839)

Louis Daguerre created the first practical photographic process onto silver-plated copper sheets. Exposure took over 10 minutes, so moving subjects were invisible.



Daguerre – still life in studio



First Human Photographed

A man having his shoes polished stood still long enough to appear in Daguerre's street scene — the first human ever captured in a photograph.



Image Source: http://benbeck.ca.uk/Insta/2/The_Human_Subject/photoll.htm



First Selfie (1839)

Robert Cornelius took the world's first photographic self-portrait. The 'selfie' is nearly 200 years old!



Image Source: https://www.daguerre.com/Robert_Cornelius_self-portrait_1839.html

Early photographs required subjects to hold perfectly still for minutes — which is why nobody smiled in early portraits!

FROM FILM TO DIGITAL — KEY INVENTIONS

1888

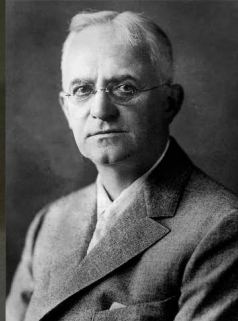
Kodak Camera

George Eastman's handheld Kodak came preloaded with 100 exposures and had to be sent back to the factory for processing.



Image Source:
http://americanhistory.si.edu/collections/search/object/nmah_760118

The Kodak (1888)
By George Eastman



1925

Leica 1

Oskar Barnack's Leica 1 was the first truly portable camera, letting photographers go mobile for the first time.

The Leica 1 (1925)
By Oskar Barnack



Image Source: <https://www.shutterbug.com/content/leica-1-camera-change-photography>

George Eastman's Kodak democratized photography; Steve Sasson's digital camera transformed it forever.

FROM FILM TO DIGITAL — KEY INVENTIONS

Digital Camera

1975

Steve Sasson's Kodak Digital Camera used a CCD sensor and recorded to a cassette tape. It weighed 3.6kg.

Kodak Digital Camera (1975)
By Steve Sasson



Image Source:
<http://www.itsmehistorypodcast.com/2016/07/inventor-of-the-first-digital-camera-steven-sasson/>

DSLR Era

1990s

Digital SLRs and point-and-shoot cameras launched a revolution, putting professional quality into everyday hands.



George Eastman's Kodak democratized photography; Steve Sasson's digital camera transformed it forever.

PART TWO

Camera Techniques

Exposure · Aperture · Shutter · ISO



THE EXPOSURE TRIANGLE



SHUTTER

Controls Duration

Side Effect: Motion Blur



APERTURE

Controls Light Quantity

Side Effect: Depth of Field



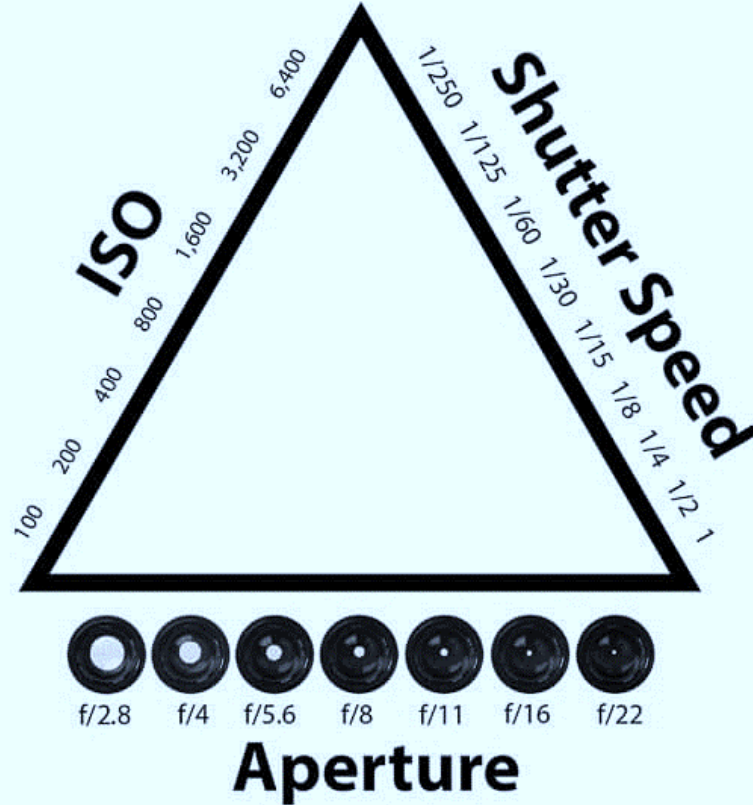
ISO

Controls Sensitivity

Side Effect: Noise

Mastering these three mechanisms is the fundamental key to balanced exposure.

THE EXPOSURE TRIANGLE



The Exposure Triangle is the relationship between three fundamental settings that determine the brightness of your photograph:

APERTURE

What is Aperture?

Aperture is an iris-like opening inside the camera lens that controls how much light enters the camera.

It is expressed as an F-stop number (e.g. f/2.8, f/16). The F-number is the ratio of the focal length to the lens diameter.

- Larger aperture (small f-number) = more light, shallow depth of field
- Smaller aperture (large f-number) = less light, greater depth of field

F-Stop Scale



Key insight: F-stops follow $\sqrt{2}$ sequence — 1, 1.4, 2, 2.8, 4, 5.6, 8, 11, 16 — each step halves the light.

SHUTTER SPEED

What it does

Shutter speed is the duration the camera shutter remains open, allowing light to reach the sensor.

Measured in seconds or fractions — from 1/16,000s to several minutes.

- Fast shutter → freezes motion
- Slow shutter → blurs motion

The 1/Focal Length Rule: Minimum safe handheld shutter speed = $1 \div \text{focal length}$ (e.g. 50mm lens → 1/50s minimum).

Practical Examples

1/1000s+ Sports, birds in flight

1/500s Moving people, vehicles

1/250s General handheld shots

1/60s Minimum handheld (50mm lens)

1s+ Light trails, waterfalls (tripod)


ISO — SENSOR SENSITIVITY

ISO & Image Quality

ISO controls how sensitive the image sensor is to light. Higher ISO = brighter image, but also more digital noise.

The concept originates from film photography where ISO indicated a film's light sensitivity.

Always use the lowest ISO possible (ISO 100–200) for the cleanest image. Increase only when necessary.

 Avoid going above ISO 800 to maintain image quality. Use Auto ISO with a maximum limit for convenience.

Sensor Sensitivity

ISO 100	Best quality, full detail
ISO 200	Slightly more noise
ISO 400	Good in mixed light
ISO 800	Noticeable noise begins
ISO 1600	High noise, low detail
ISO 3200+	Extreme noise

EXPOSURE & CAMERA MODES

Exposure is the adjustment of aperture and shutter speed to achieve correct brightness in an image.

A

AUTO

Camera controls everything: shutter, aperture, ISO and metering. Best for quick snaps.

P

PROGRAM

The camera sets most values but allows some shutter/aperture flexibility.

Tv/S

SHUTTER PRIORITY

You choose the shutter speed; the camera adjusts the aperture. Ideal for freezing or blurring motion.

Av/A

APERTURE PRIORITY

You choose the aperture (depth of field); the camera sets the shutter speed. Great for portraits & landscapes.

M

MANUAL

Full control over all settings. Maximum creative control for any situation.

Start with Aperture Priority or Shutter Priority before progressing to full Manual control.

KEY PHOTOGRAPHY TERMINOLOGY



Light Meter

Measures scene light to calculate correct shutter speed & aperture.



Focus

Based on depth of field. Aperture determines sharp focus zone and blur.



Zoom

Focal length that brings subjects closer into the frame.



Flash

A burst of light used to compensate for dark or dim environments.



Megapixels

One million pixels. More megapixels = higher resolution & larger print capability.

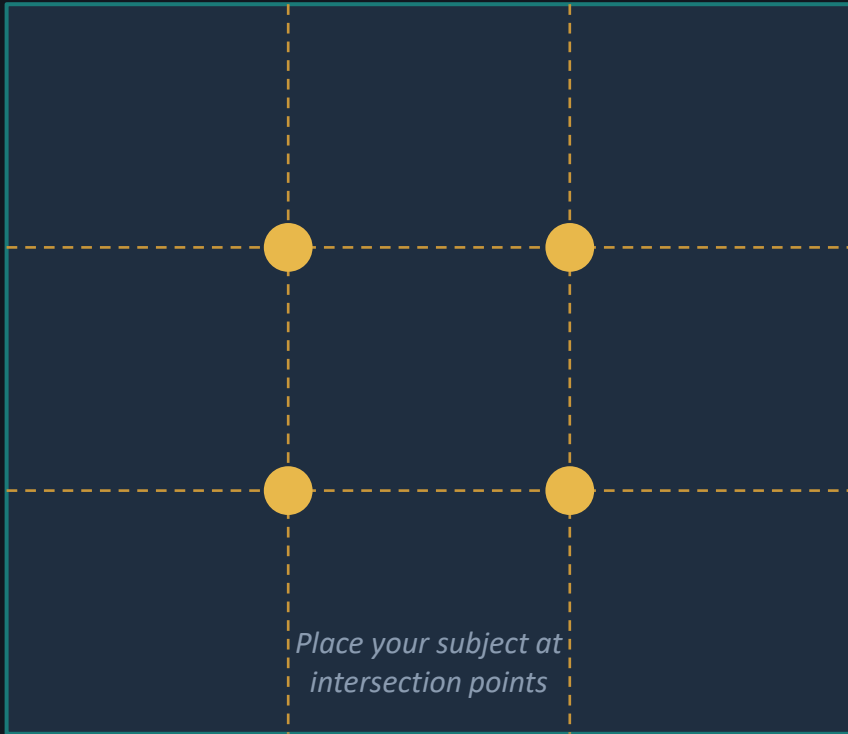


Depth of Field

The area of the image that appears in sharp focus. Controlled by aperture.

These core terms form the vocabulary every photographer needs to understand and communicate effectively.

RULE OF THIRDS — COMPOSITION GUIDE



Composition Tips

- Divide your frame into a 3×3 grid using 2 horizontal and 2 vertical lines.
- Place your main subject at one of the 4 intersection points for natural balance.
- In portraiture, align the subject's eyes with the top horizontal line.
- For landscapes, position the horizon on the upper or lower third — not the middle.
- Natural lines (trees, walls, roads) can act as composition guides.
- A strong photo directs the viewer's eye with minimal effort.

The Rule of Thirds is the most widely used composition technique in photography and visual arts.

PART THREE

Styles & Photographers

Types of Photography · Influential Masters



THERE ARE MANY PHOTOGRAPHIC STYLES IN USE

- Aerial Photography
- Architectural Photography
- Candid Photography
- Documentary Photography
- Fashion Photography
- Food Photography
- Landscape Photography
- Night / Long Exposure Photography
- Photojournalism
- Conceptual / Fine Art Photography
- Portraiture
- Sports Photography
- Street Photography
- War Photography
- Wildlife Photography

Photography spans 15+ distinct styles — each requiring unique technical and creative skills.

TYPES OF PHOTOGRAPHY — A CLOSER LOOK

Nature & Environment

- Aerial Photography
- Landscape Photography
- Wildlife Photography
- Night / Long Exposure

People & Culture

- Portraiture
- Fashion Photography
- Documentary Photography
- Photojournalism

Art & Commerce

- Conceptual / Fine Art
- Food Photography
- Architectural Photography
- Street Photography

Action & Events

- Sports Photography
- War Photography
- Candid Photography
- Forensic Photography

Every style demands its own technical and creative approach — from fast action to slow, meditative landscape work.

INFLUENTIAL PHOTOGRAPHERS — PROFILES

Ansel Adams

Landscape / Fine Art

Master of black & white landscape photography. His Yosemite images are iconic.

Dorothea Lange

Documentary

Her 'Migrant Mother' remains one of the most powerful documentary photographs ever taken.

Robert Capa

War / Photojournalism

One of history's greatest war photographers. Co-founder of Magnum Photos agency.

Annie Leibovitz

Celebrity Portraiture

Famous for intimate, theatrical portraits of cultural icons and celebrities worldwide.

Steve Bloom

Wildlife

Renowned for emotional, technically stunning wildlife photography across the globe.

David LaChapelle

Fine Art / Commercial

Surrealist fine-art photographer known for hyper-colourful, provocative imagery.

These photographers defined entire genres — from war photography to portraiture, wildlife to advertising.

MORE INFLUENTIAL PHOTOGRAPHERS

Christian Åslund

Environmental / Documentary

Swedish photographer known for powerful environmental photography documenting climate change around the world.



Timothy Hogan

Advertising / Commercial

Award-winning commercial photographer famous for creative still-life and food photography for global brands.



Together, these photographers have defined entire photographic genres and inspired generations of visual storytellers.

QUICK REFERENCE SUMMARY



Shutter Speed

Controls duration of light exposure.
Fast = freeze motion.
Slow = blur motion.



Exposure

The balance of shutter speed, aperture & ISO to achieve correct brightness.



Aperture

Controls the quantity of light.
Small f-number = wide open,
shallow depth of field.



Megapixels

Resolution measure.
More pixels = larger possible print size.



ISO

Controls sensor sensitivity.
Higher ISO = brighter but noisier image.



Rule of Thirds

Compose with your subject at grid intersections for natural visual balance.

Mastering these fundamentals will transform the way you see and capture the world around you.

WHAT WE HAVE LEARNED

The Origin



Photography means 'Drawing with Light' — coined by Sir John Herschel from Greek roots phos + graphe.

The History



From Camera Obscura (1400s) through Daguerreotype (1839), Kodak (1888), Leica (1925) to digital (1975+).

The Technique



Exposure, Aperture, Shutter Speed and ISO form the core technical toolkit every photographer must master.

The Styles



15+ photographic styles exist — aerial, documentary, wildlife, portraiture, war, street, food and more.

The Legends



Pioneers like Ansel Adams, Dorothea Lange, Robert Capa and Annie Leibovitz shaped photography as an art form.

"Photography is the story I fail to put into words." — Destin Sparks