Club Photo ORLÉANS Photo Club

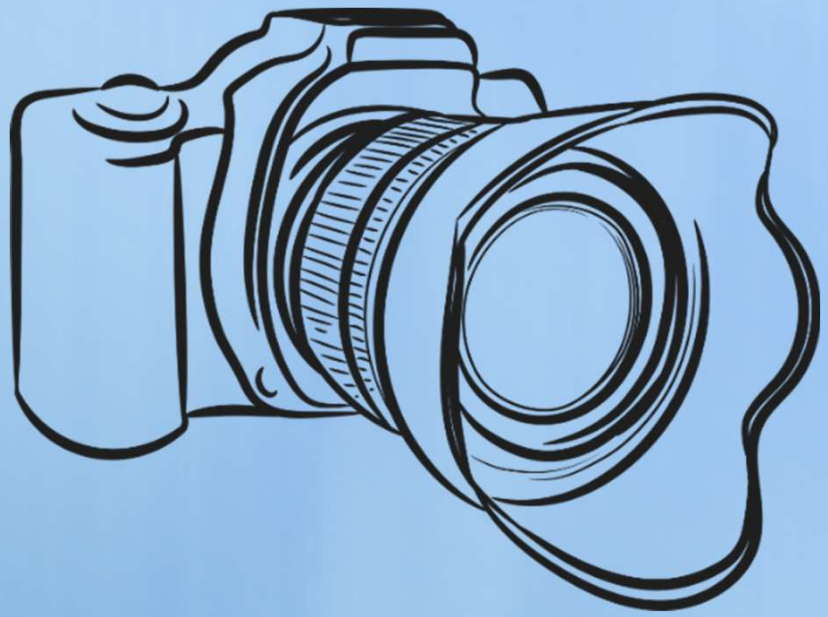

Photo 101
Pros & Cons of Mirrorless

Orleans Photo Club 2024-01-13

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Chris Taylor PHOTOGRAPHY

The single most important component of a camera is the twelve inches behind it

- Ansel Adams

But the right gear can make capturing the image easier

- Chris Taylor

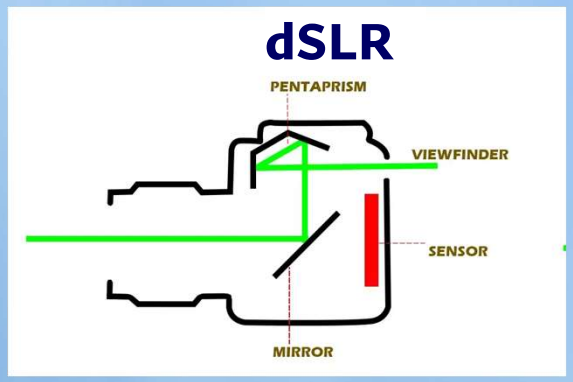
What is a *mirrorless* camera

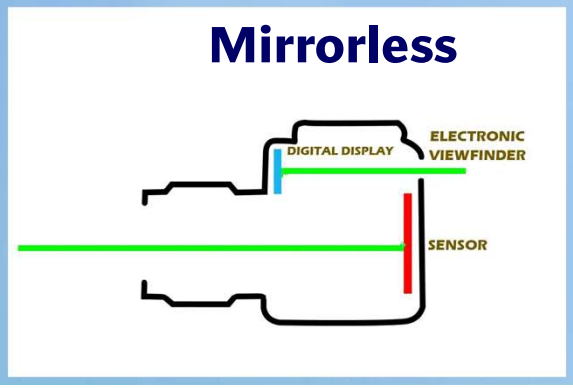
Any camera that does not have a reflex mirror (i.e. not a dSLR)

dSLR
Light blocked from sensor by mirror

When shutter released, mirror flips out of the way & sensor exposed to light

Mirrorless
Sensor always exposed to light





Mirrorless nuances

- All cameras lacking a reflex mirror are technically *mirrorless*
  - point-and-shoot cameras
  - bridge cameras
  - cell phone cameras
- More advanced advantages of mirrorless are often only found in higher-end *interchangeable lens mirrorless cameras* (ILMC)
- In this presentation *mirrorless* means *interchangeable lens mirrorless*

Autofocus

Autofocus achieved in either of two ways:

- Phase detect
  - measures alignment of light rays
  - faster and more accurate
- Contrast detect
  - looks for areas of highest contrast
  - slower
  - may be more effective in low light & with fast moving objects

dSLR	Mirrorless
• viewfinder: phase detect • additional consideration: focussing done away from sensor, may require calibration • live view: contrast detect	• phase detect and contrast detect built into sensor

Many people find autofocus with dSLR is perfectly fine
- for those people: *no clear winner*

Autofocus points

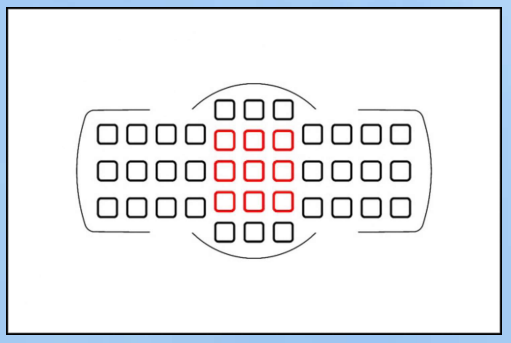
- All cameras have distinct auto-focus points
  - can choose specific points to use (single point, matrix, etc.)
- Complete coverage of frame particularly useful for:
  - subject tracking
  - avoiding *focus lock-and-recompose*

dSLR	Mirrorless
• limited number of focus points • no coverage at edges of frame	• hundreds of focus points • near complete frame coverage

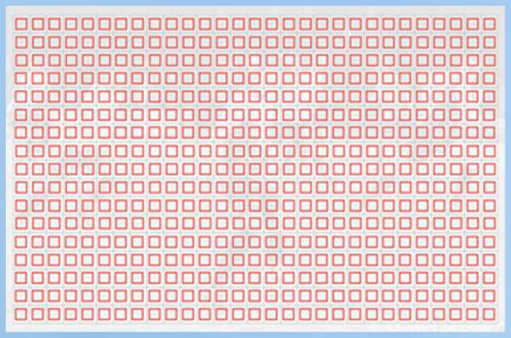
Some people
- don't need subject tracking
- don't mind *focus lock-and-recompose*

For those people: *no clear winner*

dSLR



Mirrorless



Subject detection and tracking

- Detect different types of subjects for autofocus
  - people, animals, cars, planes, etc.
  - eye-detect particularly useful
  - makes accurate focus easier
  - can be very useful for sports/action, birds in flight, etc.
    - fast action
    - moving subjects

dSLR	Mirrorless
• viewfinder: no • live view: limited	• yes, in most

Many people don't do action/critter photography
- for those people: *no clear winner*

Silent shooting

- Mirror in dSLR always adds some noise (when using optical viewfinder)
- Mechanical shutter always adds some noise (dSLR or mirrorless)
- Electronic shutter is silent (dSLR or mirrorless)
- Can be important for photographing
  - critters
  - some events

dSLR	Mirrorless

• mirror noise:
  • optical viewfinder: yes
  • live view: no
• mechanical shutter: yes
• electronic shutter: no
	• mechanical shutter: yes
	• electronic shutter: no

Many people don't have any need for silent shooting
 - for those people: *no clear winner*

Electronic viewfinder (EVF) vs. Optical viewfinder (OVF)

- Electronic viewfinder (dSLR: LCD in live view, mirrorless: LCD or EVF)
- EVF features
  - shows effect of exposure
  - live histogram
  - zoom in to see details
  - starlight view (brighten dark subjects to allow composition)
  - warm colours: LCD & viewfinder in red (don't blow night vision)
- dSLR's LCD has a limited number of these features
- Optical viewfinder (dSLR only)
  - some people prefer: sharp, natural colours
- LCD (dSLR or mirrorless)
  - can be hard to view in bright light
- Mirrorless EVF can be *much* easier for image review

dSLR	Mirrorless
• viewfinder: no EVF features, OVF benefits • live view: limited features	• full features in EVF: yes • no OVF

Lenses

- dSLR
  - long history
  - extensive choices
  - can’t use lenses designed for mirrorless

- Mirrorless
  - much shorter history
  - shorter flange distance (no need for space for mirror assembly) creates opportunities for lens designers
  - fewer choices in native lenses
    - adapters available to use dSLR lenses with excellent capabilities
    - manufacturers rapidly building out mirrorless lens lineups

Image stabilization

- Two ways to stabilize
  - in-lens
  - in-body (IBIS)
- In lens: 2-axis stabilization
  - horizontal and vertical shift
- IBIS: up to 5-axis stabilization
  - horizontal shift, vertical shift, roll, pitch, and yaw
- Can work together for up to 8-stops image stabilization

dSLR	Mirrorless
• in-lens stabilization: yes, select lenses • IBIS: no (except Pentax)	• in-lens stabilization: yes, select lenses • IBIS: yes

Manual focus assist/verification

- zoom in on image to verify focus is accurate
- focus peaking: shows areas that are in sharp focus

dSLR	Mirrorless
• optical viewfinder: no • live view: some cameras (zooming & focus peaking)	• zoom in to verify focus: yes • focus peaking: yes

Continuous shooting

- Can help to catch perfect moment
  - bird catching a fish
  - ball hitting bat
  - water droplet hitting surface

dSLR	Mirrorless
• up to about 20 fps	• 20, 30, 40, 120 or more fps ** high fps in reduced resolution and JPEG format*

Many people don't need high fps continuous shooting
- for those people: *no clear winner*

Price

dSLR	Mirrorless
• generally less expensive • great deals in used market	• generally more expensive

Battery life

- dSLR
  - don't have to power EVF
  - but have to move mirror
- Mirrorless
  - have to power EVF (or LCD)
  - many ways to limit power consumption
    - turn down brightness, auto-power-off, power EVF only when eye at EVF, etc.

dSLR	Mirrorless
• generally use less power resulting in longer battery life	• generally use more power resulting in shorter battery life • being addressed somewhat by manufacturers

Size and weight

- dSLR
  - needs space for mirror
  - extra weight of mirror assembly
- Mirrorless
  - no mirror assembly
  - can be smaller and lighter
- Reality check
  - other components are majority of size & weight
  - generally not a lot of difference in overall size and weight

Image quality

- You can get equally high-quality images from both dSLR and mirrorless

Final tally

- Many will disagree with some *or all* of my conclusions
  - especially those highlighted in green – these may be *No clear winner* for you!
- Decide what is important to you

Mirrorless	dSLR	No clear winner
autofocus, focus points, subject detection/tracking, silent shooting, evf, lenses, image stabilization, manual focus assist/verification, continuous shooting	price, battery life	size & weight, image quality