Photzy

WHAT ARE THE DIFFERENCES BETWEEN A DSLR AND A MIRRORLESS CAMERA?

Short Guide

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Anyone who has been involved in photography long enough should be familiar with the sometimes contentious debate about the differences, whether real or imagined, between film and digital. Which exhibits better dynamic range? Which has better resolution? How much better is it? The digital medium has established itself as the imaging standard, and most who still engage in the film versus digital discussion are generally content to concede that both can co-exist.

Arguments over the merits of film photography as compared to digital photography have died down as technology has continued to advance, but it is this ever-advancing technology that is responsible for the persistence of still another topic of debate within the photography world: DSLR versus mirrorless.

Are DSLRs, with their bulky bodies and slapping mirrors, really dinosaurs? Are mirrorless cameras truly the future of photography? These questions don't have simple "yes" or "no" answers, and that is a good thing for everyone. But if you find yourself in a position of having to choose between the two technologies, here are a few key factors to keep in mind.

Michele M. F.
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This is an example of what you can expect when you peek through a rangefinder's viewfinder. The viewfinder is that small window at the back of your camera that allows you to preview your shot.

A LITTLE BACKGROUND

Strictly speaking, mirrorless cameras aren't anything new; rangefinder cameras (such as those world renowned Leicas), which have been around since before the first film SLRs, don't use a mirror and pentaprism like an SLR — hence, they are mirrorless cameras. SLRs and DSLRs employ a mirror/pentaprism system, allowing the photographer to see exactly what is coming through the lens and making focusing a breeze. Rangefinders only simulate this process; focus is typically achieved by moving a calibrated focusing wheel to align the images that appear in the viewfinder.

In modern, digital-centric parlance, mirrorless cameras typically refer to digital cameras that do not possess a mirror and pentaprism. These cameras are not rangefinders in the traditional sense. Thus, while all rangefinder cameras are mirrorless, not all mirrorless cameras are rangefinders.

Tobias Akerboom
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This is a film rangefinder, a type of mirrorless camera. This type of camera will have a window in front so that when you peek through the viewfinder at the back, you can get an estimate of how the camera will frame your shot. Digital SLRs and mirrorless cameras do not have this front window since these cameras allow you to preview what the lens sees.

Brett Jordan
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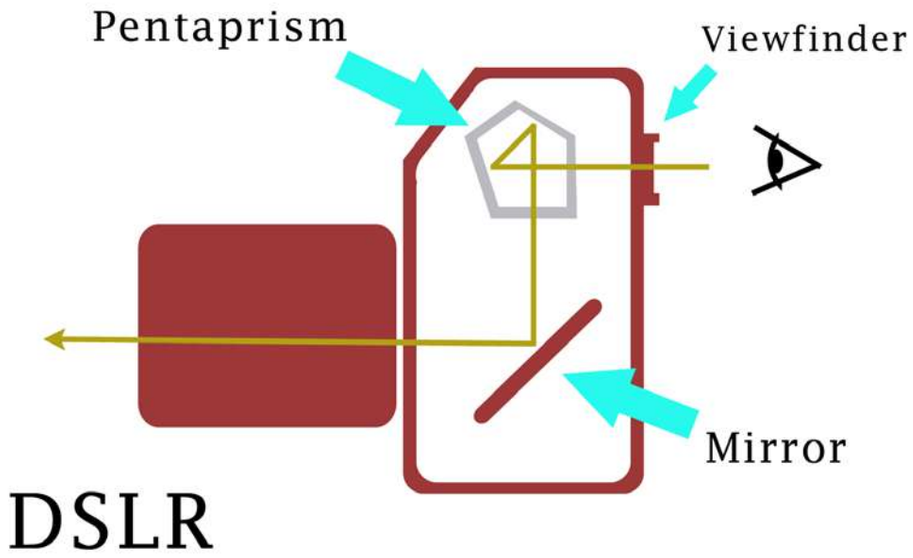
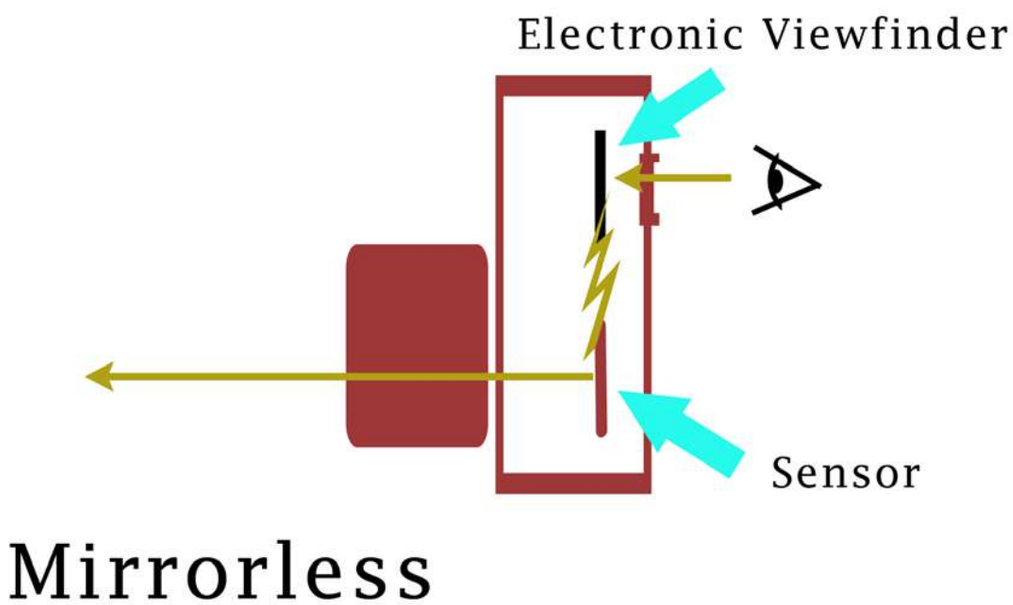
The bulkier DSLR (left) houses a mirror and a pentaprism. Two things that a mirrorless camera (right) doesn't have.

SIZE AND WEIGHT

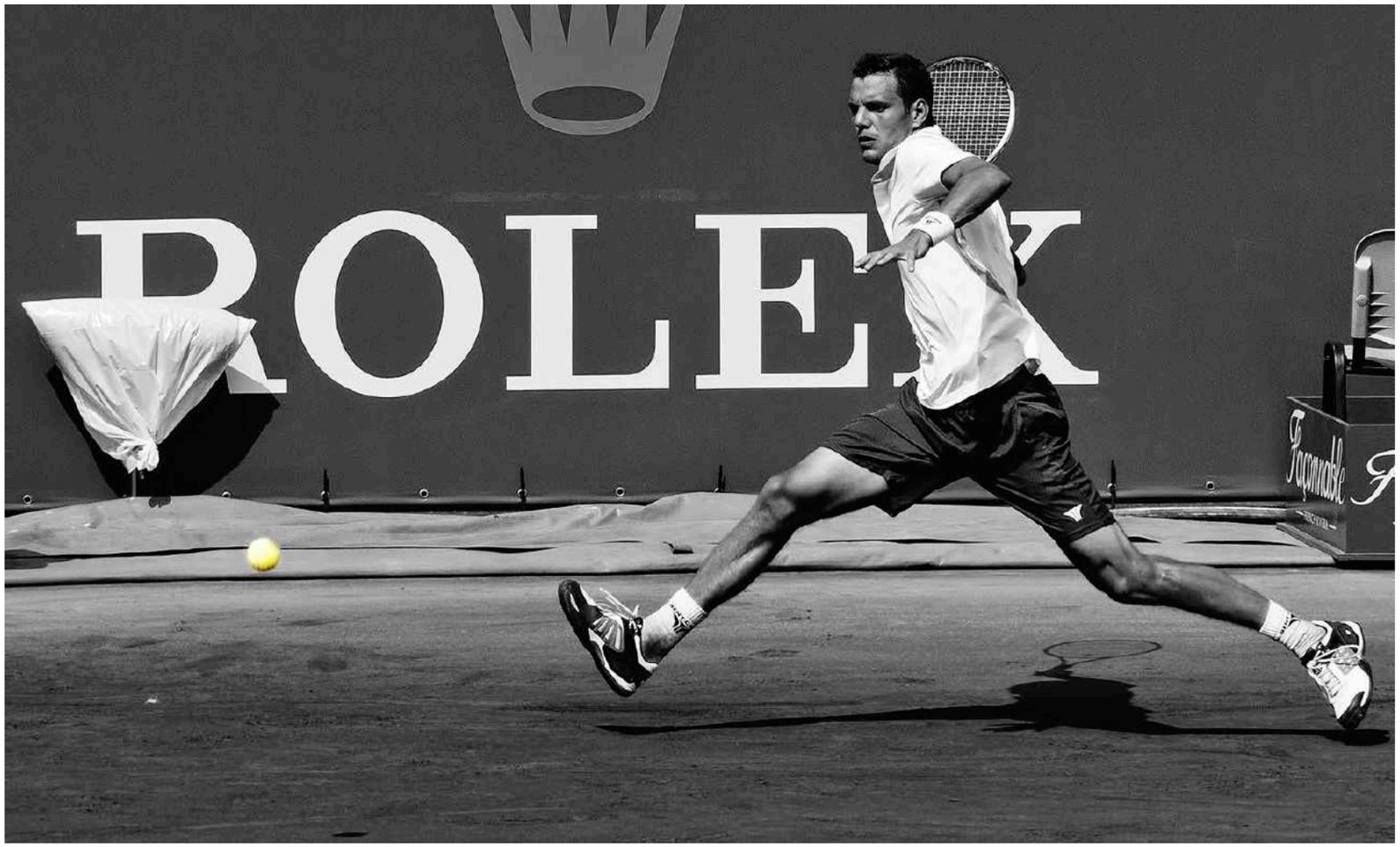
Digital SLR cameras are bigger, bulkier and heavier than their mirrorless counterparts, as they need to house a mirror and prism mechanism. Mirrorless cameras obviously lack a mirror; nothing sits between the rear element of the lens and the imaging sensor. This design helps cut down size and weight significantly. However, if there is an upside to the more robust DSLR bodies, it is better ergonomics.





VIEWFINDER

DSLRs employ an optical viewfinder as their primary means of previewing an image. When you look through an optical viewfinder, you are looking at the exact scene the camera will capture when you press the shutter button. Virtually all DSLRs currently on the market feature a secondary view finding option referred to as Live View, which makes use of the rear LCD. There are mirrorless cameras that feature an optical viewfinder, but many more use an LCD screen or an electronic viewfinder (EVF) to preview images (many mirrorless cameras sport both an EVF and a rear LCD). The EVF essentially provides a real-time electronic rendering of what you would see through an optical viewfinder. While mirrorless cameras such as the Fujifilm X-T1, Olympus' OMD series, or Sony's A7 lineup feature very good EVFs, the technology overall is continuing to improve. Electronic viewfinders have yet to edge out optical viewfinders for many photographers — mostly due to lag in low light conditions — while others are perfectly content with their EVF.



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AUTOFOCUS

When it comes to autofocus speed, DSLRs have traditionally enjoyed bragging rights. However, various mirrorless releases from the likes of Sony (a6000), Panasonic (GH4), Olympus (OMD EM-1), and Fujifilm (X-T1) each have at some point made pretty bold claims about AF speed. In “real world” testing conducted by The Camera Store in 2014, these mirrorless cameras performed exceptionally well in comparison to the high-end Nikon D4s. Sure, sports and wildlife photographers might do well to stick with a DSLR for now, but mirrorless cameras are quickly minimizing the autofocus speed advantage seen in high-end DSLRs. This is due, in part, to the implementation of hybrid autofocus, an AF system that combines both phase detection and contrast detection technologies.

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LENS SELECTION

Given that DSLRs have been the dominant format for so long, it makes sense that there is such a comprehensive selection of lenses — both native and third party — available for these cameras. The newer mirrorless cameras, particularly those from Sony, Pentax, and Samsung, have a comparatively small (but growing) stable of native lenses available. The main exception to this, of course, is the Micro Four Thirds mirrorless format. As of April 2015, there are more than 70 native lenses available, the bulk of which are manufactured by Olympus and Panasonic (the companies behind the Micro Four Thirds format). Lenses from third party manufacturers like Sigma, Tamron, and Rokinon/Samyang have helped fill in gaps left by the lack of native mirrorless lenses. Mirrorless cameras are also easily adapted to fit virtually any manual focus legacy lens.

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IMAGE QUALITY

Due to their larger sensors (APS-C or full frame), DSLRs were at one time considered the clear winners when it comes to image quality. But today, even the small Micro Four Thirds size sensor has advanced to the point that overall image quality leaves little to be desired for mirrorless camera users. Upping the ante even more is the incorporation of APS-C size sensors (standard in most Fujifilm X cameras) and full frame sensors (Sony's A7 series) in mirrorless bodies.

Lan Bui
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VIDEO

The ability to shoot video is a standard feature on any camera these days. Mirrorless cameras tend to be a better option for those looking for fast and accurate focusing/tracking in video mode (mirrorless cameras are sometimes spoken of as video cameras with the ability to do still shots). Comparatively few DSLRs are equipped with the means (namely, on-sensor phase detection points) to challenge mirrorless systems in this area. Furthermore, while both mirrorless and DSLRs are capable of broadcast quality/ HD video, newer 4K/Ultra HD are currently far more likely to be found in mirrorless bodies. Canon's 1D C, released in 2013, became the first DSLR to incorporate 4K resolution.

Mirrorless cameras need to allocate power to the Electronic Viewfinder (EVF) which leads to shorter battery life.

BATTERY LIFE

When it comes to battery life, there really is no competition between mirrorless cameras and DSLRs — DSLRs win, easily. This is primarily due to the fact that when using a mirrorless camera, you need either the EVF or LCD to be on in order to operate the camera. Battery drain can be lessened by making use of various dimming options, but the fact remains that DSLRs are capable of getting more than twice as many shots per battery. Perhaps the most practical solution for mirrorless camera users is to simply buy a few more spare batteries.

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THE BOTTOM LINE

Everything in photography is indeed a compromise. But all the options generated by all the competition is good for consumers. The debate over which technology is “better” is mostly pointless. Make your decision based on which camera offers features that are best suited to your style of shooting — both aesthetically and ergonomically. That is all there is to it, really.

About the Author

Jason D. Little is a photographer (shooting macros, portraits, candids, and the occasional landscape), part time writer, and full time lover of music.
You can see Jason's photography on his *Photography Blog* or on *Flickr.*

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