Dapto Camera Club Magazine.

Viewfinder.

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Dapto Camera Club Newsletter..
The teaching Club.

4 Tips for Shooting Drop Dead Gorgeous Waterfalls

By: Eric Leslie

Waterfalls are a very popular subject for landscape photographers. The draw to their natural beauty is clear, but sometimes coming home with the best shots is harder than you might think. As the curator for the Google+ Photography theme, #WaterfallWednesday I get asked how to take better pictures of waterfalls every week. So let me share some tips with you.

1. Your gear is good enough

The first thing most people suggest you need in order to shoot waterfalls is a complete quiver of neutral density (ND) filters to get a long exposure. Forget that! Let's start with a camera that can shoot on manual and a tripod. That's all you need. The biggest problem with slapping a dark ND filter on your lens is still the sun. When it's bright overhead, you have bright "hot spots" and dark shadows that don't look great. The light is harsh and flat. The best thing to do is show up at sunrise and sunset. Waterfalls are often in deep canyons, so as long as the sun is behind the mountains with the whole waterfall in the shade, you can achieve a long exposure with nice even light. In fact, you can plan ahead to maximize this. If you think about it, if the waterfall you're wanting to shoot is facing east, sunrise would not be the best time of day because it will catch the light right on the falls. So an east facing waterfall will be best shot in the late afternoon.

Links of Interest:

Viewbug - http://www.viewbug.com/
ePHOTOzine - http://www.ephotozine.com/
Federation of Camera Clubs [NSW] - http://www.photographynsw.org.au/
Australian Photographic Society - http://www.a-p-s.org.au/
Gurushots - https://gurushots.com/
Free Lessons with Serge Ramelli - http://photoserge.com/free-lessons/all

Viewfinder cover photo taken by.

David Milnes

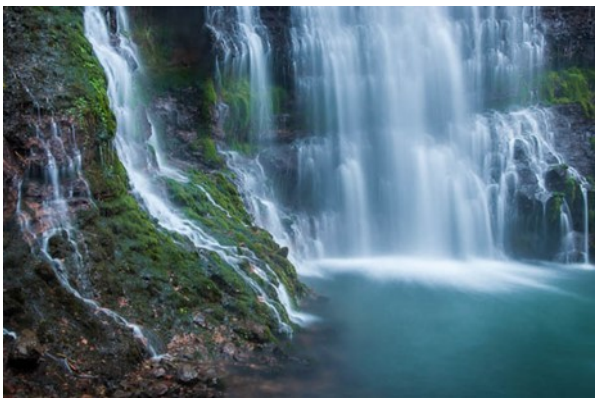
2. Read the waterfall

How long does the exposure actually need to be? I think the answer varies like people's taste in fast food. Personally I categorize waterfalls into two different categories. There are the falls that rage with so much water they take your breath away. The others are dainty and delicate. So keeping in mind I don't want the waterfall to be a detail-less blob of white water, you need to set the exposure appropriately.
This waterfall was very full and the light was low. At 1.6 seconds, I let this exposure go too long leaving the water without details.

On Manual, I usually start with the slowest ISO my camera can go, 100. Then I set my aperture small enough to maximize focus, usually around f/8 to f/10. Then I see what kinds of shutter speeds that nets. For the big falls, I try to keep my exposure under a second. Anything between ¼ to a full second will show the water's motion and still retain all the detail in that movement.
Small stringy waterfalls just love putting on a show with longer exposures. These shots look great when you can go as long as possible. Don't be afraid of the small aperture police who say you will lose sharpness. Photography is always about compromises and in this case, the slightest loss in sharpness only visible when viewed at 200% is greatly outweighed by capturing the water's movement. Don't be afraid to use f/22 if you need it. I try to shoot for exposures 1-4 seconds long at these kinds of waterfalls.

3. Save the Trees
Have you ever tried to shoot a waterfall with a long exposure and noticed that the leaves on the trees and plants move with just the slightest breeze? You've probably seen people take a bracket of a landscape to compress the dynamic range of light into a single image. We can do the same thing here, only we're compressing time. After you've bagged your shot of the waterfall, look around the edges of the photograph and you see if the plants are soft and fuzzy. If they are, you have to play this mental gymnastics to switch into a sports mindset of shooting to freeze motion. You need something in the 1/100 or faster range. You can open up the aperture, but make sure you don't loose your maximum focus. If that's not enough light, you need to start boosting your ISO until you can achieve that shutter speed.
Back home, you take the two exposures and blend them back together using layer masks in Photoshop. I'll save that topic for another blog post.
I blended two shots together to keep the leaves sharp because they were moving in the breeze.

4. Head out when it's cloudy



One way you can buy yourself some more camera time is to hike on overcast rainy days. You get all the benefits of shooting when the sun is low, with the freedom to shoot all day. I also find you get much better color when it's overcast so things like mossy rocks or autumn leaves really pop.
One pitfall you need to avoid on cloudy days is including the sky. Depending on the waterfall, if you can get up high to shoot down on the falls, eliminating the sky from the shot, you will avoid getting a boring grey sky over your waterfall.

On this overcast day, I choose to get in close and focus on the details to exclude the sky from the shot.
Like anything in photography, it takes practice and experimentation. Get out there and put some of these tips to practice. Please share some links to your latest shots in the comments.

8 tips for photographing your newborn and energetic toddler

By Beth Ann Fricker

Bringing a baby home is an exciting time.
There is a different energy in the house and everyone is adjusting to a new norm.
With an energetic toddler already at home, documenting this change can seem daunting and photographing toddlers creates its own set of challenges. Instead of suppressing your toddler's spirit, incorporate his or her energy into capturing your new

day-to-day.

1. Engage your toddler first.

Before even picking up the camera, spend some time with your toddler. The transition to big brother or big sister is different for every child so overindulge them in attention before asking them to take photos with their new sibling. You know your child best, and what works well. Sit or kneel down near the older sibling and just play with their favorite toys for a while. Life with a newborn can be a blur and it adds to the photographic memory of what the older sibling was interested in during this special time.

2. Embrace movement.

Run! Jump! Chase! Bounce! These are all things our kids do. Life with young children is never static and when a newborn comes home that doesn't change. Documenting your new reality creates an interesting visual dichotomy.

3. Redirect the energy.

Toddlers love to be helpful. When photographing your children together, ask your toddler to count the baby's fingers, to find the baby's nose or to give the baby a kiss. If the toddler is interested, ask him or her to help by getting baby to "smile."

4. Get creative.

We all want photos of our kids together but it is important to gauge our toddler's temperament. Toddlers can be unpredictable, and it is essential not to force anything. If the sibling is unable or unwilling to hold the baby, that is okay. Instead, get creative. The toddler doesn't have to hold the baby for you to have a photo of them together. One solution is to have one parent hold or sit with the kids and then crop in.

5. Hand the camera over.

Don't forget to document yourself or partner with the older sibling(s). A lot of attention might be being

paid to the baby and these weeks may seem like a blur later on. You'll love having photos of yourself with your other child(ren) later on. Kids love attention, especially from mom who has been spending more time with the baby. Hand over the camera to someone else or use the self-timer. Instead of trying a posed photo capture genuine moments of love by goofing around with the older sibling.

6. Don't forget the details.

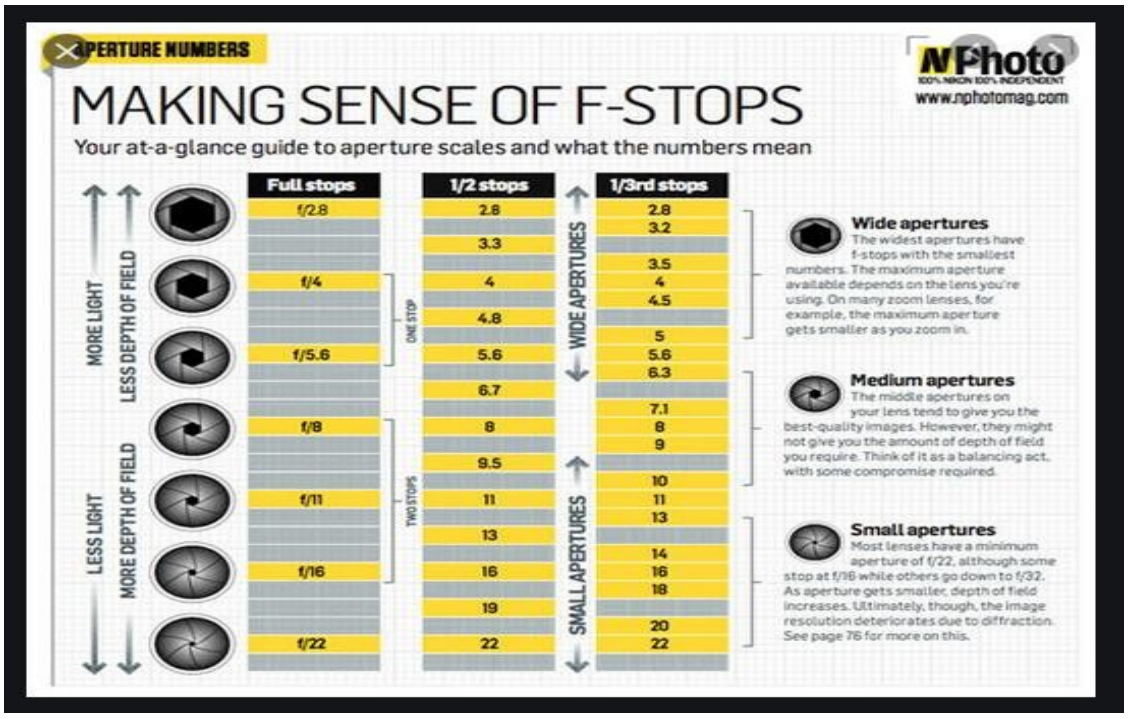
Photograph the difference in size between the children. This can be done by photographing hands, toes or even by using shoes or clothes.

7. Capture the downtime.

Whether it is reading in his or her favorite chair, eating breakfast, or the rare moment of your child playing independently use this opportunity to document the calm.

8. Break time.

Everyone needs some time away from the camera and toddlers are no different. A significant transition just occurred in their life and a period of adjustment is needed. Give your child a break and try taking photos later. Have one parent spend some one-on-one time with them away from the camera or let them play independently. Use this opportunity to focus on photographing your newest addition.



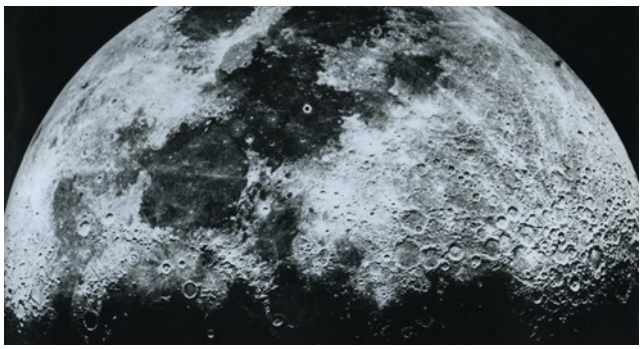
How to shoot the Moon

Photographer Jonathan Ives walks us through the A-Zs of getting that perfect detailed photo of the Moon.
By Jonathan Ives • May 5, 2016 • Reading Time: 10 Minutes

Image credit: NASA Scientific Visualisation Studio
THERE'S AN ART to photographing the moon. Many people know the frustration of a beautiful night sky that won't transfer over into your shot – looking at your photo, it seems completely different.
It is possible to take a spell-binding picture complete with crater detail and depth – all it takes is some adjusting of your camera settings and a little bit of patience.
Related Video
But before we get into the nitty-gritty of picking around within your camera settings, it's worth knowing one or two things about our subject and its orbit around the Earth.
This will help you in your pursuit of a shot that's 'out of this world'…

Phases of the moon

A photo of the Moon taken in 1964 as part of Archives New Zealand's former Post and Telegraph/Telecom Museum Holdings collection. (Photo Credit: Archives New Zealand)



The Moon has different 'phases'. While we are always seeing the same 'side' of the Moon from Earth, its position in relation to the sun (which is lighting its surface for us to see) means we see different amounts of that surface. This happens in a regular cycle known as lunar phases.
Many people start out photographing a full Moon. While this is obviously the biggest and brightest phase, if you want to capture the detail and texture on the Moon's surface it's better to photograph the Moon when it's NOT full.
This is because the beautiful detail of the Moon is accentuated by shadows and the contrast of light and dark near the Moon's 'terminator' or border, where it turns from bright to shadow. In a full moon there is no terminator and therefore the 3D depth and detail of the surface is somewhat lost to us. Just like in portrait photography, we need shadows to reveal shape and texture.
Unlock rarely used features of your DSLR
Tutorial: Photographing fireworks
Smartphone photography tips

The best phases to take photos are during a gibbous Moon (i.e the Moon is more than half illuminated). Whether it is 'waxing' (getting bigger towards a full moon) or 'waning' (getting smaller after a full moon) isn't too much of a concern.>
While small crescent moons are very interesting, they often don't provide enough size for really dramatic images. It's worth checking a lunar calendar to know when the Moon is going to be best for photography (and when it will be visible in the night sky). A couple of days either side of a full moon is usually ideal.

Photographing a super moon

A super Moon, or perigee, forms when a full moon coincides with its closest approach to Earth.
It's worth noting when these perigees happen because, if they coincide with an illuminated Moon, the Moon can appear up to 14 per cent larger to us on Earth and 30 per cent brighter which is excellent for photographing it! You can find out when the Moon is closest by looking at an online calendar. A couple of days either side of this will be an excellent opportunity to take your photos.
Of course you can still photograph a non 'super Moon' and get great results!

What you need

- Your longest lens. 200mm, 300mm, 400mm (or longer if you have it!). You could even put on a tele-extender if you've got one. The Moon is bright but because it's so far away it will appear small in your frame so pick your longest focal length to zoom in as much as you can.
- A sturdy tripod and cable release to remove tripod wobble when pressing the shutter button. Shutter buttons are handy but not essential – a 2-second timer delay in your 'drive mode' settings will also work instead of a cable release, and you can even shoot the Moon without a tripod, providing your shutter speed is fast enough to prevent significant camera shake – you may just need to turn up your ISO a bit more to achieve this.

A clear night.

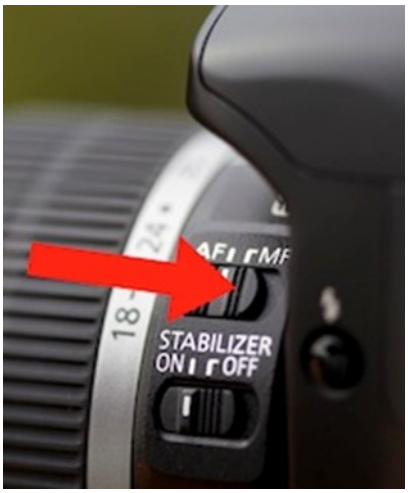
Camera settings

Shoot in RAW

This is in your image quality settings. While shooting large JPEG's is adequate for most of your photography, in this case you'll benefit from doing a fair bit of post processing on your image so shooting in RAW allows you to pull a bit more detail out of your shots on the computer later.

Be aware that the files are significantly larger in size, so they will fill up your memory card a lot faster. For those who are really keen on post processing there is an extension section below you can try which involves stacking a few images together in order to increase saturation without introducing too much 'noise' in your final photograph.

Set (and lock) your focus.



Lock focus by selecting MF (Photo credit: Chris Bray Photography)

The Moon is plenty bright enough for your camera to autofocus on. Once you've grabbed an autofocus, you can 'lock' this focus distance in by flicking the AF/MF switch on the side of your lens to MF.So long as you don't touch the manual focus ring, you'll remain locked at this focus.

If you'd like to be super accurate, you can zoom in on the Moon x10 in 'live view' on your LCD screen and tweak the manual focus ring to ensure the craters are precisely in focus.

Use a cable release (or an in-built 2-second timer delay)

This will help reduce tripod wobble, especially since you're using a long lens! When taking multiple photos, make sure you let the tripod absorb the shake between shots.

Shooting Mode

Select Aperture priority mode ('Av' on Canon or 'A' on other brands) using the mode dial of your camera. For practical purposes, as the Moon is so far away, Depth of field is not hugely important here so you don't need a big f/number. Plus a smaller f/number will allow more light to pour into the lens allowing for a faster shutter speed. There is no need to go to your lens' extreme, though; something around an f/8 is usually sufficient.

By being in Av mode your camera will select the shutter speed for you. Shutter speed is more important than you think. The Moon moves surprisingly quickly in the sky so long photos will therefore be less sharp. Quicker photos also help eliminate any camera shake or tripod wobble. Something around 200th second is quick enough on a stable tripod. If it's quicker than that, great! But it doesn't need to be super fast. If the shutter speed is a little slow, just bump up the ISO a little.

ISO

Since Aperture mode is selected, increasing the ISO will automatically increase the shutter speed. However high ISO's create 'noise' in your photo and reduce image quality, and reducing noise wherever possible is important as we'll be cropping the image later on the computer.

Keep your ISO as low as possible, but still make sure you're achieving a fast enough photo. Start on ISO 100 or 200 and see what shutter speed you're getting.

If you're not getting a fast enough photo (ie your photo is blurry due to camera or Moon movement), then bump up the ISO as needed.

Turn down exposure compensation

Dial down exposure compensation to capture the Moon's details. (Photo credit: Chris Bray Photography)

This is the secret to capturing a detailed Moon – without adjusting your exposure compensation, you'll probably get frustrated, pack up and go inside.

If you leave your camera's exposure compensation on zero in Evaluative metering your camera will automatically try and give you a 'mid brightness' photo. It'll interpret the scene as 'dark' and therefore try to bump up the brightness a lot to generate that default 'mid brightness' photo. This means that the Moon will be pure white, completely washed out and over exposed. All detail on the surface will be completely lost.

But by turning your exposure compensation down (eg minus 3, 4 or minus 5), your camera will adjust its settings (by tweaking the shutter speed) to give you a darker shot, allowing you to capture the detail in the Moon! Play around with your minus exposure compensation until you achieve the detail you're after in the moon.

Note that the longer your lens, the larger the Moon will look in your shot and the brighter that photo is supposed to be (and the brighter you'll have to set your exposure compensation). The smaller the Moon looks in your shot, the darker you'll need to set your exposure compensation to reveal it's detail.

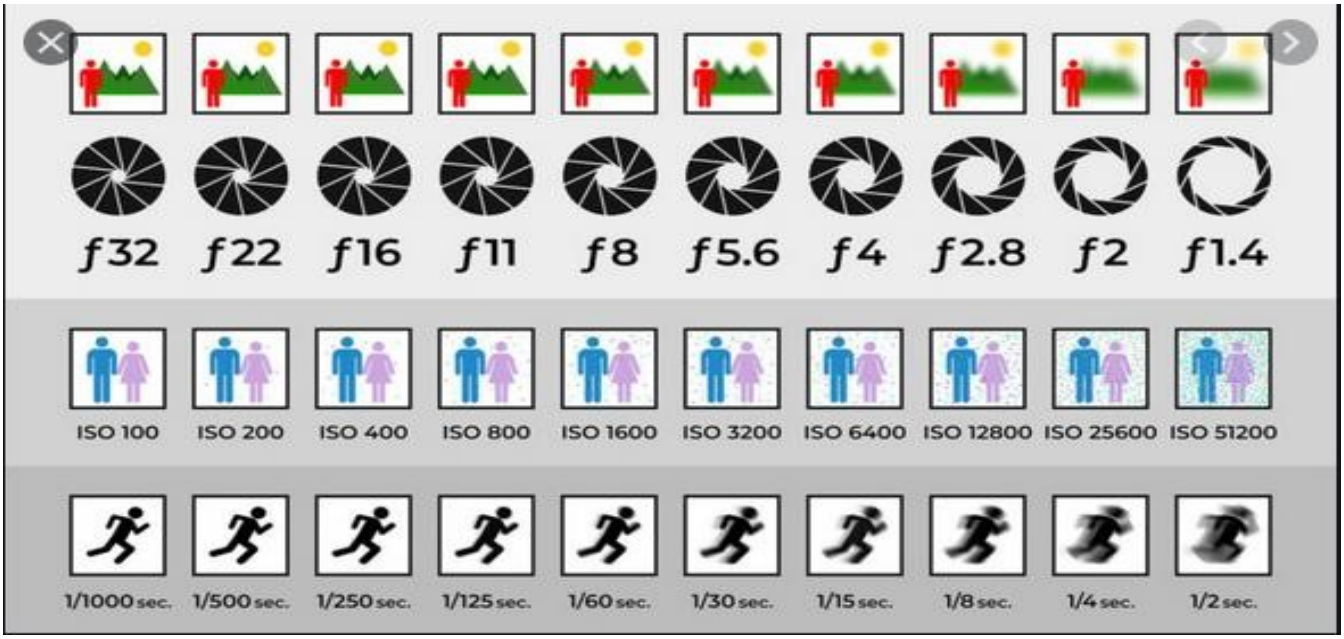
If your camera's exposure compensation doesn't go low enough – ie. below minus 2 exposure compensation, you can still control your exposure, you just have to take complete control of your camera.

Using 'Manual' (M) mode, pick the same settings as above (a small-ish f/number and a fairly low ISO eg 200). Now you can play around with your shutter speed making it faster and faster until you get the detail back in the Moon.

Start at something like 200th of a second. If the Moon is too bright, make your photo faster (perhaps 300th second). By incrementally increasing the shutter speed you're letting less light into the camera, so more detail should pop up in your photos.

Later, load your RAW files into a photo editing program, crop in on the sharpest image, perhaps play with the 'contrast' a little and you've got yourself an amazing moon photo!

F Stop/ISO/Shutter Speed Chart



How ISO Affects Your Images

What is ISO?

ISO, which stands for International Standards Organization, is the light sensitivity rating of a digital image sensor. If you have read my article on the Basics of Exposure, then you may recall that alongside shutter speed and aperture, ISO is one of the three pillars that control exposure on your camera. As you increase the ISO, the sensor becomes more sensitive to light, which allows it to capture more light without slowing down the shutter speed or opening up your aperture. Each time you double your ISO number (like from ISO400 to ISO800), the sensor becomes twice as sensitive to light and therefore require only half as much light to attain the correct exposure.

The ISO range for a camera can be as low as ISO35 or ISO50 and as high as ISO240, 800. Majority of DSLRs tend to start at either ISO100 or ISO200 and top off at ISO3200 or ISO6400. Each camera has a "base ISO," which is the minimum ISO rating that will provide the cleanest image for that camera. This is usually ISO100 or ISO200, but there are some cameras that have a base ISO of ISO50.

Film vs. Digital

For film photography, ISO or ASA (American Standards Associations) speed refers to the film speed of the film roll. Typically, when you are shooting outdoors in a sunny day, you will be using an ISO100 or ISO200 film. If you're shooting indoors, you would probably switch to an ISO800 film or faster. What's hard, of course, is if you have to go from an outdoor to indoor location quickly, because that usually means that you would either have to change the roll of film or compensate with your aperture or shutter speed.

Great thing about digital photography is that you can change your ISO speed on the fly, making it easy to transition between exterior and interior shots. On top of that, you can actually view on the LCD screen how your image looks in that particular ISO.

Image Quality, ISO, and Noise

As you go increase your ISO, you start to introduce "digital noise" to your image. Similar to film, which has more and more grain the higher you go in ISO film speed, digital sensor creates more and more noise as you increase your ISO. Noise is the by-product of the increased electric charge needed to make the sensor more sensitive to light and looks like speckles on the image. The consequence of more noise, however, is a rougher-looking image and a decrease in image quality.

There are two types of noise, luminance noise, and chroma noise. Luminance noise retains much of the original color because this type of noise only affects the brightness of the pixels. Chroma noise, on the other hand, looks like colored speckles or grain, and is largely unattractive. This is because the noise is affecting the color of the pixels rather than just the brightness of the pixels. Luckily, post-processing software like Lightroom 4 does a good job in minimizing chroma noise.

Different cameras have different thresholds on when this noise starts to degrade the image quality. This is known as the signal-to-noise ratio. There are several factors that determine signal-to-noise ratio. Aside from the processor of the camera, the megapixel count and the size of the sensor play a role in how well a camera can mini-

mize noise.

Megapixel and Sensor Size

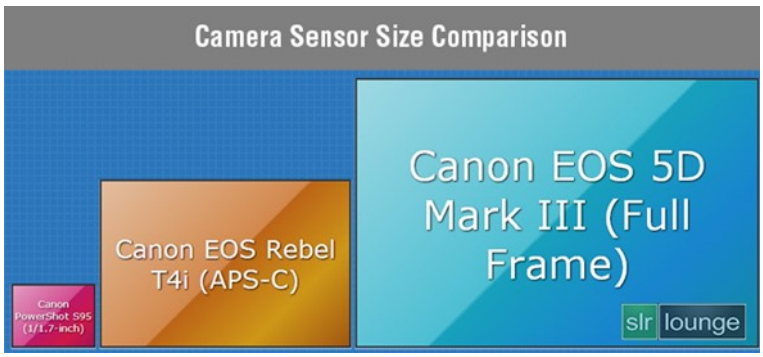
The size of the sensor and the amount pixels on that sensor directly affects the potential amount of noise that can occur when you are shooting at higher ISOs. Imagine that a sensor is like a swimming pool and the pixels are the amount of beach balls that can float in that pool. If you only have 100 balls, you can fit larger size balls in the pool. If you want to fit 1,000 balls, you would either have to have a larger swimming pool or use smaller balls. That is essentially the same relationship with pixel count and sensor size. A sensor is made up of millions of tiny light-gathering receptors called pixels. One megapixel (MP) consists of one million pixels. If you have two same size sensors and one has 12MP and the other has 24MP, the 12MP sensor can have larger pixels than the 24MP sensor. The larger the pixel size, the better that pixel is in gathering light, just like the larger the beach ball, the more air it can hold. If you want to increase the number of pixels from 12MP to 24MP without decreasing the pixel size, then you would have to increase the physical sensor size. This is like having a larger swimming pool to hold more beach balls without decreasing the size of the balls. The size of the pixel in relation to the sensor size is known as the pixel pitch and is measured in microns.

So as you increase your ISO, you will start to get noise at a lower ISO with a compact camera than with a larger sensor DSLR. A compact camera image can look noisy at ISO800, whereas a full-frame DSLR image can have little to no noise all the way up to ISO3200.

Recommended ISO for Different Scenarios

Here are some recommendations of what ISO to use in different lighting conditions.

- **Outdoors with sunny skies:** 100-200
- **Outdoors with overcast, sunrise and sunset:** 200-400
- **Well lit interior:** 400-800
- **Semi-lit interior:** 800-1600
- **Nightime exterior or dimly lit interior:** 1600-6400
- **Indoor or nighttime sports:** 1600-8000



The other factors that will determine which ISO to use is what shutter speed and aperture combination that you want to use. If you are shooting fast moving subjects that require a fast shutter speed of 1/500th sec or faster, you have to compensate for exposure by either opening up your aperture or increasing your ISO. Using a lens that is “fast” or have a large maximum aperture like f/1.8 allows you to shoot in a lower ISO as opposed to if you are using a lens with a maximum aperture of f/2.8. Sometimes, you have no choice but to increase the ISO. This is particularly true for shooting events like a wedding reception where you want to have a fast enough shutter speed to make sure your subjects are not blurry.

Additionally, if you want to use a smaller aperture like f/16 to increase the depth of field for landscape photography, you also have to compensate for exposure by either using a slower shutter speed or increasing your ISO.

Now, if you place your camera on a tripod and you’re shooting landscape or the city skyline, then you can shoot during the day or night without having to change your ISO. All you have to do is slow down your shutter speed until you have the correct exposure.

Conclusion

So to recap, the ISO rating refers to the light sensitivity rating of a sensor. The rule of thumb is to shoot at the lowest ISO possible given the lighting condition and shutter speed/aperture combination that you are using. The higher the ISO, the more noise creeps into your images, so if you can get away with using a lower ISO, then do so.

Sensor size and megapixel count also affects how soon noise will start to creep into an image as you increase the ISO. A 24MP compact-camera sensor will be a lot noisi-

er at ISO1000 than a 24MP full-frame sensor. Typically, a higher-end camera does a better job in controlling noise at the higher ISO range than a lower-end camera.
Finally, it's important that although you may have to use a higher ISO to get a shot in low-light, it is better to use that higher ISO and have more noise than to not get the shot at all or to have too much motion blur from too slow of a shutter speed. At least with noise, you can deal with it in post.

What Is Back-Button Focus?

By Dvir Barkay

Back-button focus is a camera technique that separates focusing and shutter release to two separate buttons. It is a useful way to stop the camera's autofocus system from getting continuously engaged when the shutter is released. In this article, we will take a closer look at what back-button focusing is, and how you can take advantage of it in your photography.

One of the key areas many photographers often struggle with, especially when starting out, is focusing. Being able to properly acquire focus on a subject or a scene is critical in making sure that the photograph is sharp where it needs to be. This is where back-button focusing comes into play.

Introduction

Critical focus is one of the most crucial elements we attribute to a good photograph. This is especially true in my field of nature and wildlife photography where focus accuracy usually makes or breaks an otherwise good photograph. A basic understanding of a camera's focusing system is fundamental at the outset of our photographic journey, but I often find that a more in-depth mastery of the camera's focusing system takes a backseat while we improve other photographic aspects.

Grizzly Bear in Snow, Captured with the Back-Button Focusing Technique
Copyright Dvir Barkay, Canon EOS-1D X @ 560mm, ISO 640, 1/1600, f/6.3

Part of the reason for this is that it is effortless these days to pick up a camera and take sharp images with the default focus settings – issues only begin to arise when our subjects become more complicated. Whether it is a model's eye in portraiture, or the beak of a bird-in-flight, proper focusing forms an essential part of the storytelling mechanism of photography. The key to sharp images starts with a fundamental understanding of your camera's focusing system and settings, which is why it is important to understand what back-button focus is and how you can take advantage of it in your photography.

What is Back-Button Focus?

Simply put, back-button focus is a technique that takes the autofocus function away from the shutter release button, and re-assigns it to another button on the back of the camera. Although the name only suggests a button on the back of the camera, it can be any physical button (provided it can be set up for engaging autofocus). Most advanced digital cameras on the market today have a dedicated AF-ON button that is specifically designed for back-button focusing, as shown in the illustration below:

When you pick up a camera and half-depress the shutter release button, the focus system engages and tries to attain focus on your subject, which is the way most cameras are set up by default. With a bit more pressure applied to the shutter release button, the shutter trips and an image is captured. This process occurs regardless of the autofocus mode set up on the camera.

This essentially means that the single shutter release button is used for two different purposes – one to focus and one to take a picture. While doing this, if you apply a bit more pressure to the shutter release button than usual, you will ultimately end up taking unwanted images. What if your subject is stationary and all you want is to focus and recompose for a better composition? Sure, you could switch to One-Shot / Single Servo (AF-S) mode, lock on your subject then focus and recompose, but each time you switch from a stationary to a moving subject, you will need to remember to switch from One-Shot / Single Servo (AF-S) to AI

Servo / Continuous Servo (AF-C) mode to be able to continuously track the subject.

In addition, if your subject is stationary and the camera-to-subject distance is the same, you will need to either turn off autofocus or remember to hold the autofocus lock button (if there is one) in order to prevent the camera from re-acquiring the focus again. Some cameras will allow you to keep half-depressing the shutter release to lock on focus and hold it, but if you accidentally let your finger off the shutter release button, you will be forced to re-acquire focus again. All this unnecessarily complicates your focusing technique, since there are too many actions and settings to keep in mind.

By moving the focusing function to a dedicated button on the camera and using the shutter release button only to take pictures, you can greatly simplify this process. Any time you need to focus, refocus or continuously track the subject, you engage the focusing button. If you need to take a picture, you engage the shutter release button. There is no need to remember which focusing mode you are using, because you can always keep your camera in AF-C mode. Dead simple.

Advantages of Back-Button Focus

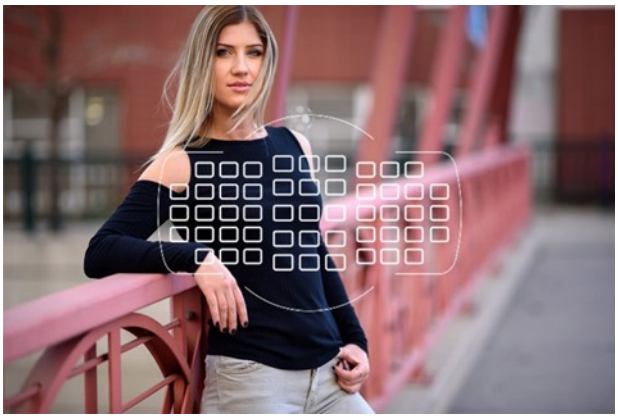
Let’s go through all the benefits of back-button focusing.

Shoot in AF-C with the Benefits of AF-S

The biggest benefit of back-button focusing is the ability to shoot in AI-Servo / Continuous Servo (AF-C) mode with all the benefits of One-Shot / Single Servo (AF-S). Since the dedicated focusing button is only engaged when you need to focus, you can keep your finger off of it when you need to lock focus and simply keep on taking pictures.

This image shows the focus point overlay of the Nikon D750 DSLR

With back-button focus, it was easy to focus and recompose on the model’s face



For the above image, it was impossible to focus on the model’s face with the Nikon D750 DSLR, because the focus points are only spread in the middle of the frame. This meant that the focus and recompose technique had to be utilized for this particular composition to work. Here, combining the AF-C mode and back-button focusing provided the same benefits as when using the focus and recompose technique in AF-S mode.

The back-button focusing technique can also be advantageous in situations where you need to quickly transition from shooting a stationary subject to one that is moving.

Shoebill, Uganda

Copyright Dvir Barkay, Canon EOS-1D X @ 350mm, ISO 2500, 1/5000, f/9.0

In the above case, you can find a Shoebill patiently waiting in the midst of a Papyrus Swamp in Uganda. I pointed my center focus point (since it is most accurate) at the bird, then focused using the AF-ON button and recomposed. Right after I took my image, the bird decided to fly off.

Shoebill in Flight, Uganda
Copyright Dvir Barkay, Canon EOS-1D X @ 280mm, ISO 2500, 1/5000, f/9.0

I just held down the AF-ON button to start focus tracking and squeezed the shutter button simultaneously to take continuous images of the Shoebill in flight. The whole process is seamless and done with just one autofocus mode (AF-C) while at no point limiting my ability to focus and recompose.

Instant Manual Focus

Since the camera's autofocus is only engaged when you press the dedicated focus button, you can take complete control of the manual focus on most lenses without your camera overriding the focus when the shutter is released. This can prove incredibly useful for situations where your subject is heavily obstructed by objects that prevent the focusing system from being able to acquire focus.

Grizzly Bear, Yellowstone National Park
Copyright Dvir Barkay, Canon EOS-1D X @ 600mm, ISO 1000, 1/1250, f/8.0

This photograph of a Grizzly Bear represents a situation where my focusing system struggled to acquire proper focus due to the high grass situated before my subject. I was missing critical moments due to the focus system continually jumping back and forth between the bear and the blades of grass. After some moments of struggling with the focus system, I decided to go ahead and take photos of the bear using manual focus. Because I was using Back-Button Focus at the time, the moment I stopped pressing the AF-ON button, I took complete control of the manual focus without my Canon DSLR overriding my focus when I pressed the shutter button.

Back-button focusing can also be very useful for night photography. If you have tried photographing the Milky Way, you probably know how important it is to properly acquire focus and frame your shot. Instead of constantly dealing with switching between autofocus and manual focus, you can simply use the back-button focusing technique to acquire focus, then use the shutter release to take as many pictures as you need.

Back-Button Focusing can also be used for photographing the night sky
Copyright Spencer Cox, NIKON D800E @ 20mm, ISO 3200, 20 seconds, f/2.2

Ignore Obstructions

Moving subjects will often confuse the autofocus of the camera. Since AF-C is used to track movement, if something gets in the way of the subject, the focus system may attempt to lock onto the obstruction. With Back-Button Focus, you can momentarily remove your thumb from the AF-ON button while still taking photos of the subject using the shutter button.

Mule Deer through Fall Foliage, Yellowstone National Park
Copyright Dvir Barkay, Canon EOS-1D X @ 300mm, ISO 6400, 1/1250, f/3.2

Disadvantages of Back Button Focus

One of the main drawbacks of Back-Button Focus is that it requires excellent coordination to operate fluidly. Initially, it might take some time and practice to fully master having to press two buttons to do the job that you had previously done with one.

If there is one real difficulty to Back-Button Focus, is when you use it under challenging shootings conditions where it can become difficult to maintain the high coordination needed for it (such as when shooting with a heavy lens or when you are tired). This is especially true when you use it during very cold weather conditions.

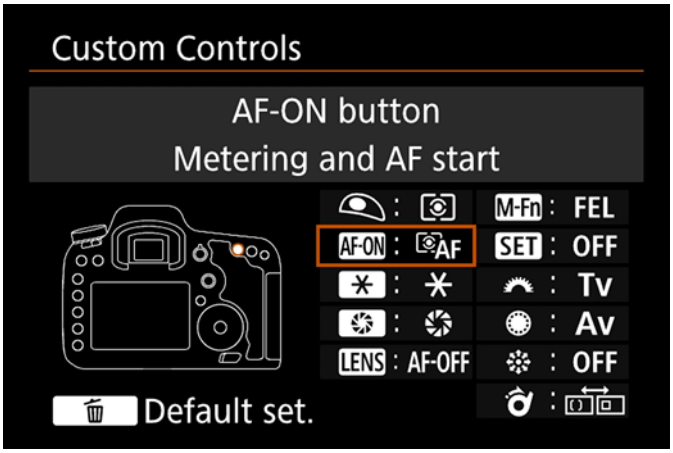
I experienced this first hand while shooting in Yellowstone during a snowstorm. After spending long hours outside in the sub-zero temperatures, my fingers became numb, and I lost the ability to accurately judge if I was pressing the buttons on my camera with the proper force to activate their functions. In such a case, it is much easier to only have one button which both enables focus and trips the camera's shutter.

Bear in Snow, Yellowstone National Park
Copyright Dvir Barkay, Canon EOS-1D X @ 454mm, ISO 8000, 1/1000, f/5.6

Because I was using Back-Button Focus at the time, I missed some photos due to not pressing the AF-ON button firmly enough. I recommend that in cold weather or in situations where you can't be 100% positive that you are correctly pushing all the cameras buttons, you revert to the default method of using the shutter release button for both focusing and capturing the image.

Another downside is that if your subject is always on the move and it is very erratic (such as a bird in flight), it simply tires your thumb to the point that it might be worth switching back to a single button. If you always shoot such fast action and you always default to the center focus point, you might want to evaluate if it is worth using back-button focus.

How to Set Up Back-Button Focus in Your Camera



Canon DSLR and Mirrorless Cameras

If you use a Canon DSLR or mirrorless camera, the process of setting it up for Back-Button Focus starts with the Custom Function Menu. Depending on which Canon model you are using, the Custom Menu will be laid out a bit differently, but in all recent models the following functions can be found in the Custom Function Menu:

1. Open Custom Functions in the Menu
2. Scroll to the Custom Controls screen
3. In the Custom Controls screen, set the shutter button to "metering start" (which stops the shutter button from engaging focus)

Set the AF-ON button to "Metering and AF start"

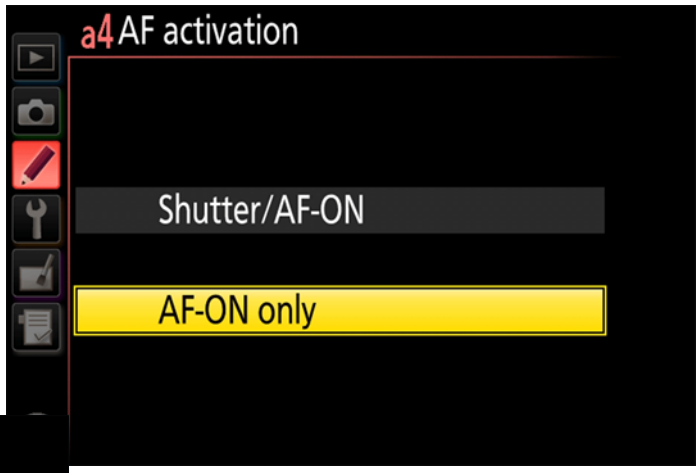
Nikon DSLR and Mirrorless Cameras

If you use a Nikon DSLR or mirrorless camera, the process of setting it up for Back-Button focus starts with the Custom Settings Menu. Depending on which Nikon model you use, the Custom settings Menu will be laid out a bit differently, but in all the recent models, the following settings can be found in the

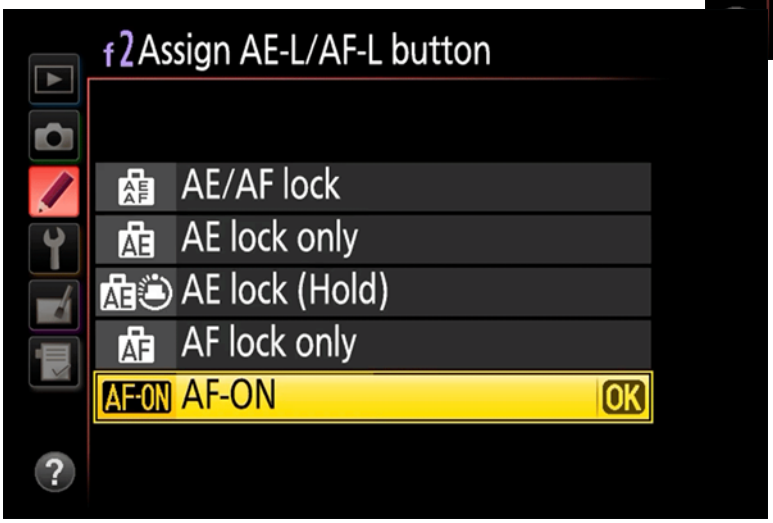
Custom Settings Menu:

1. Open the Custom Settings Menu
2. Select the “Autofocus” tab
3. Select “AF activation”

Select “AF-ON only”



For Nikon models that don’t have an AF-ON button, you will need to set up the AE-L / AF-L button in the Custom Settings Menu to use it as if it was an AF-ON button:



1. Open the Custom Settings Menu
2. Select “Controls” tab
3. Select “Assign AE-L/AF-L button”
4. Scroll through the different options in the menu until you find “AF-ON”

When on the “AF-ON” option, select “OK”

Sony Mirrorless Cameras

If you use a Sony mirrorless camera, you can also move the focusing button to one of the buttons. The latest mirrorless models have a dedicated “AF-ON” button that you can use for back-button focus.

First, you need to de-couple autofocus from the shutter release. This can be done by visiting the menu and finding the “AF w/ shutter” option. Make sure to turn it off.

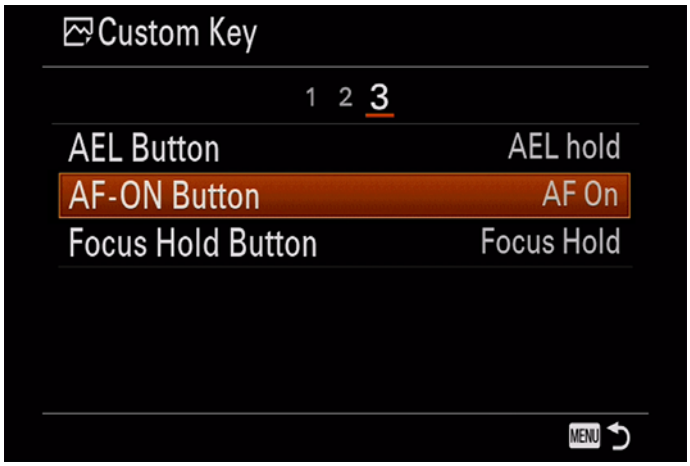
1. Press the Menu button

Find “AF w/ shutter” menu and set it to “Off”

Pressing the AF-ON button should now work for focusing. Make sure that it has not been previously set for something else though. Visit the “Custom Key” menu of your Sony camera and find the “AF-ON Button” assignment. Make sure that it is set to “AF On”, as shown below:

Fujifilm GFX and X Mirrorless Cameras

Back-button focus on Fuji cameras is performed a little differently from model to model. Below is how you do it on some of the latest mirrorless models:



1. Open “Set Up” in the menu
2. Select “Button/Dial Setting”, pick Fn/AE-L/AF-L Button Setting, and assign AE-L or AF-L button to “AF-ON”.

In “Button/Dial Setting”, set “Shutter AF” to “Off”

If you have a Fuji camera that has a dedicated AF-ON button (such as the GFX 50S or the X-H1), then you need to perform the following:

1. Open “Set Up” in the menu
2. Select “Function (Fn) Setting” and make sure that “AF-ON” is set to “AF-ON”

3. Select “Button/Dial Setting”

Set “Shutter AF” to “Off” for both “AF-S” and “AF-C”

Fuji cameras have another method to perform back-button focus by allowing a button to perform focusing even when switched to manual focus. Here is how you set it up:

1. Switch the focus selection dial to Manual (M).
2. Open “AF/MF” in the menu
3. Select “Instant AF Setting”

Set “AF-C”

Panasonic Lumix Cameras

If you have a Panasonic Lumix camera, setting up back-button focusing is quite easy:

1. Set the “AF/AE LOCK” dial to: AFC.
2. Go to the Custom Setup menu
3. Set “AF/AE Lock” to “AF-ON”
4. Set “Shutter AF” to “OFF”

Set “Focus/Release Priority AFS/AFF” to “FOCUS”

HOW TO... compose images with leading lines

By Jeff Meyer

Learning how to compose images with leading lines can be a great way to add extra impact to your photos. Here’s what you need to know…

When photographers talk about composing images they often talk about the Rule of Thirds. This compositional aid is a simple guide that photographers of all levels use because it’s a useful way to arrange the elements in your scene and making instant improvements to an image. And it works for every photograph.

So why would you want to use anything else? Sometimes photographers like to take their compositions a step further to add impact in additional ways. Leading lines are one of the most popular of these devices because can add impact and scale as well as draw the viewer into your images.

What are leading lines in photography?

Leading lines are elements within a frame – typically something like a wall or railroad tracks – which grab the viewer’s attention and draw their gaze from the foreground to the background.

Because leading lines usually appear larger in the foreground than they do in the background, these also have the added benefit of giving an image a sense of distance and scale.

Wide-angle lenses are particularly useful when shooting leading lines because your ‘line’ will look much larger in the foreground than it does in the background, giving an exaggerated sense of depth and scale.

What to use as a leading line in photography?

The better question is, what can’t you use?! There’s a huge variety of objects that can create leading lines in photography, but perhaps the ones you see most often are train tracks, road markings (and roads for that matter!), curbs, buildings, footpaths, rivers, walls, fences and lines of trees.

But it’s important to remember that just finding something linear isn’t enough to make a leading line. Your ‘leading line’ has to be positioned correctly relative to the main subject and extend from the foreground towards it.

A leading line won’t produce the desired effect of drawing a viewer’s gaze through the frame if it shoots out to the side of the frame because the viewer’s eye will then exit the image with it.

A leading line needs to form a link between the different elements of the scene. This link can be a straight line or it can zigzag or snake into the scene.

To frame your leading line correctly, walk around your scene until you find the perfect alignment between your chosen leading line and the main subject. If you’ve ever shot a forced perspective image (e.g. those famous shots of tourists propping up the Leaning Tower of Pisa) the process is similar. It takes some trial and error.

Using non-physical leading lines

Physical lines like train tracks and roads are the most obvious types of lines you can use to draw a viewer into an image, but you can also create links between elements using implied lines.

What is an implied line? Imagine a photograph of someone in the left foreground staring at the Eiffel Tower in the right background. A line is implied here by the direction of that person’s gaze within the scene.

You can test the impact of this for yourself simply by shooting two versions of an image. I often do this with landscapes.

Shoot one version with a person standing in the foreground looking towards the camera and another with them looking towards my main subject. Then I shoot another version with the person looking at me.

When the person is looking towards the camera the image looks more like an environmental portrait and our eyes are drawn to their face. When they look at the view, however, a line is created from their eyes towards the horizon (or object they’re looking at) and our eyes follow in the same direction.

Leading lines aren’t just for landscapes

You can use leading lines in many types of photography, so don’t forget to make use of them when you’re shooting an interior, putting a still life scene together, even setting up a portrait.

Using leading lines in portraiture can result in really creative images. For instance, try using your subject’s hands or arms to create leading lines, raising them towards the face to pull the viewer into the subject’s eyes where you’ve locked focus.

implied leading lines can work very well in group portrait shoots, for example when the parents look towards a new baby. It’s a great way of conveying who the most important person is in a photograph.

What gear you’ll need

The main criterion for shooting leading lines is simply finding a linear subject, and there’s no piece of equipment that can affect the shape of what’s in front of you. But there are some pieces that can give you a greater advantage when it comes to the other elements of that scene interacting with that linear subject.

For instance, a tripod. If you’re composing a river or road or train tracks as your leading line, a tripod will give you the stability to capture the movement of the subjects moving up and down it.

You might also want a remote shutter release if shooting at night or over long exposures.

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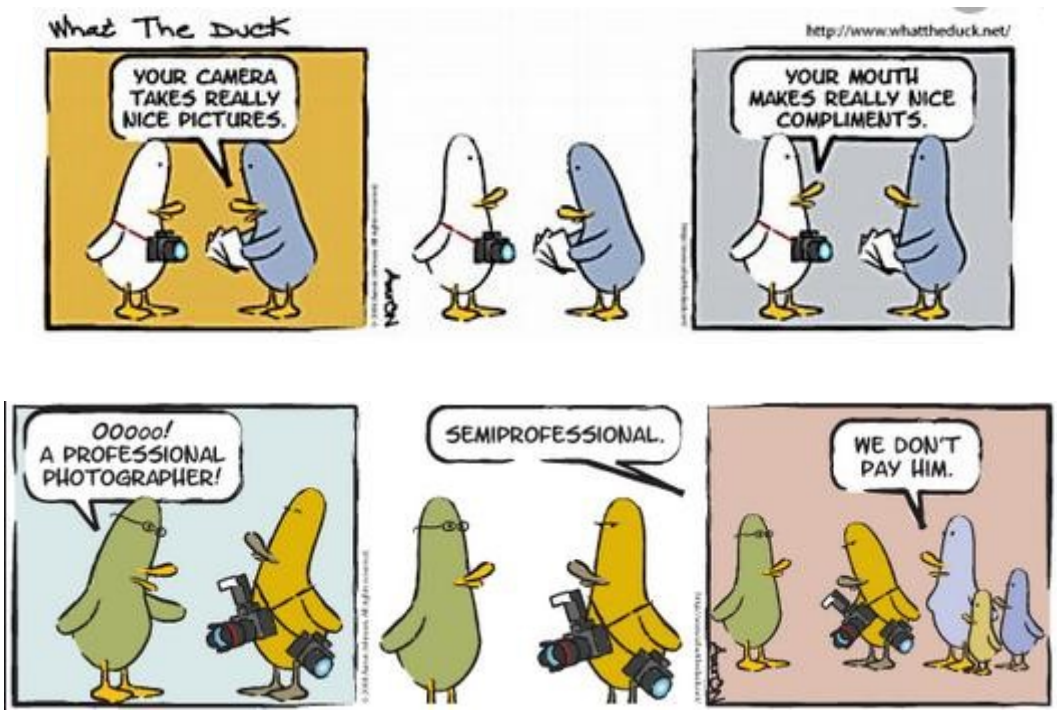

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