

Photography

Photography Equipment

January 25, 2018 | Charles T. Low, Photographer

Equipment doesn't matter ... and it matters a great deal!



"What kind of camera equipment do you use?"

At a Freeman Patterson seminar which I attended years ago, essentially on "composition", this query inevitably arose during the question period. All photographers hear it.

Patterson answered along of the lines of having a personal policy of not answering that question. He explained that the most important piece of equipment a photographer has resides between her or his ears, and not in the technical details.

Two things about that:

- he was not saying that good equipment doesn't matter;
- he did make an exception for one particular tripod head which he recommended, information so long ago superseded, I would guess, that it bears no further discussion.

It was nice to see that his policy was not an inflexible ideology, but rather a reasoned response to be ignored when appropriate. (World leaders: listening to this?!?)

Within the frailties of my memory, he went on to say not only to have good equipment, but to know how to use it. Read and re-read the owner's manual. Experiment with settings and features. Work at it until it's intuitive, so that when some unexpected obstacle arises on a dynamic shoot, you can respond immediately with all of the technological resources available and needed to conquer the problem.



This makes people with humbler cameras oo and ah - and I did get some pleasing photographs that day - but it is the photographer who makes a photograph, not the gear.

But do not, under peril of art-limbo, allow an over-focus on technology to distract you from the essentials, from the attention you need on the art of photography.

Over-reliance on equipment

I think that all photographers have gone through something like the following:

- get your first "proper" camera;
- blast through a roll of film (I know I'm dating myself);
- find the results *awful*.

What could have gone wrong? How could I have wasted that \$300 (or whatever a good, consumer

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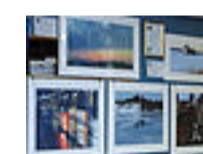
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SLR cost back in 1983), if this was going to happen? I must have adjusted some setting wrong.

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No. Quite the opposite; if anything, with good equipment, you need to understand photography better than otherwise.

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Think about racing car drivers. Put most of us in the seat of a Formula One race-car, and we couldn't get down the first straight, let alone around the corner; that's not even contemplating vying for position dynamically at over 200 mph with a terror of other similar cars inches from ours. These drivers, highly-trained professionals, also probably born to race, need world-class cars. But the world-class cars need *them* just as assuredly.

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I might have just sli-i-ightly over-blown that comparison with high-end photography gear, but you get the idea. A really nice, high-resolution camera and lens will illuminate deficiencies. Anything questionable about the lighting, the composition, the exposure, will impact more jarringly when using equipment specifically *designed* to "show more".



Doesn't that look cool? That's my old film-camera system (worth nothing anymore, I'm afraid). It was a great collection of camera gear, but it didn't *take* good pictures. Rather, it enabled me to *make* great pictures!

A more practical problem, when I hand my camera over to someone unfamiliar with it, arises when they say, "Which button do I push?" With a simpler camera, we have fewer buttons.

With a cell-phone camera - and they are doing incredible things with these recently - one can most definitely adjust settings, but i) not conveniently in real-time as the conditions of a shoot change quickly, and ii) that leaves not much to do at the moment of exposure: push the button or don't. Simple! That works well, per the conventional wisdom, about 90% of the time.

So, realistically, *we're talking about the other 10%*.

My first film camera, when I was about ten years old, was a Kodak of some description, and I had to roll the film to the next exposure and then take the picture. There was nothing else to it. It didn't make fantastic photographs, nor did it pretend to. It was designed for frugal-budget snapshots (not that they don't matter).

But my second camera, a gift to me when in my teens, was much more elegant, yet an exceedingly simple contraption to operate. There were no batteries. When I put the film in, I had to check that I had set the sensitivity properly. I chose one of four focus settings. There was no zoom. Then ... get ready, because this is will blow your mind ... I aimed, and pressed the shutter-release.

If there wasn't enough light, it wouldn't let me depress the shutter button - but with an f2.8 lens (i.e. large-ish maximum aperture), it could accommodate a bit less light than one might think.



Perhaps not a simple camera to design and build, but a simple camera to operate, and I got great pictures with it! (I still have that camera and it still works and I'm keeping it - and I don't use it.)

The quality of photographs from that camera was fantastic - *could* be fantastic - when I got the composition right. When looking through my new prints at the camera store (who can wait until they get home?), the staff might admire some of them, and the knowledgeable ones would often comment about how great a lens that camera was known to have.

(Attach a flash to that camera, and it did require a little more user-input.)

It doesn't, in other words, have to be complicated to be good.

Simple equipment releases you to focus on the essentials:

- light;
- composition;
- in portraiture, interpersonal skills.

Many aspiring photographers succeed at this level, by paying close attention to the art. Early on, the technology itself can seduce us, which so often distracts us from what absolutely and unequivocally must come first: the ability to see like an artist.



Algonquin Dawn Mist. This was around 1980, with the simple camera described above. All I did for that shot - all my camera would *allow* for that shot - was i) recognize a light and scene which pleased me, ii) select one of four possible focal ranges, iii) frame it, and iv) release the shutter.

So ... simple works well ... *90% of the time*. There were things that little camera could not do. But what it could do, it did very well.

For the other 10%, you still don't need an \$8,000 Canon. (Yes, there are cameras which cost that much, and yes, that's a made-up word, although it is a good word, and it wasn't me who made it up.)



No one would look at this photograph and have it even impinge on their consciousness what camera took it. (I did stretch that little camera's abilities and functions ...)

People have enjoyed the above photograph. Photographers who "pixel-peep" could tell that it wasn't made with a high-end camera, but the light and composition are good (enough), and overall it worked very well. Again, "small and simple" does not, in and of itself, cause problems, and although cheap lenses can cause problems, many of these "basic" cameras have really excellent optics.



I got one of my most-loved photographs with my smaller, simpler (older) camera. (Remember to keep a camera with you - you never know when ... !)

Under-reliance on equipment

None of this should suggest that good equipment - or do I mean "fancy equipment"? - doesn't matter. But I have had people say that they wanted to attend one of my photo-walks, but that they only have an entry-level camera. I of course welcome everybody, and although a camera with an adjustable aperture and shutter speed will help, the topic is always "light and composition".

Still, let me concoct a short and incomplete list of the advantages of better equipment:

- better lenses;
- better sensors;
- better image engines;
- raw file availability;
- less vibration;
- more accessories.

Lenses: as with all technology where energy changes forms, the make-or-break functions arise at those interfaces. Remember the adage about spending as much on the stylus as on the rest of the turntable? The stylus transcribes mechanical energy, immediately before it transforms into electrical energy. Remember the one about spending half of your sound-system budget on the speakers? That's where the energy changes back.

We can say the same about lenses. They gather the light, which then changes at the sensor into electricity. True, you're probably not going to put a \$3,000 lens on a \$300 camera (and there are absolutely lenses which cost that much); that would be like putting a 500 hp engine into your sub-compact. They just don't match well, and much of the benefit conferred by one is lost on the other.

But a good lens brings joy to the photographer, and to the viewers. The latter might never know why a particular image seems a bit more noticeably vibrant, and crisp - still assuming a skilled photographer was involved in the process! - but the lens does matter.

If - and all of these "ifs" must be taken together:

- if you have a \$1,000 camera (just a good, round number!), and
- if you know what you're doing (or get lucky), then
- a \$1,500 lens will, in general, produce better pictures than a \$500 lens.

Sensors: these are the things onto which the light from the lens arrives, the other critical part of the energy-transformation hardware. In digital cameras, they replace film. The quality of sensors has improved steadily and dramatically since the inception of digital photography. A better sensor will, among other things, work better in low light. Among other factors, size features prominently, and bigger sensors simply cost more. Fortunately, technology trickles down, and sensors overall perform really well these days.



It likely helped to have a more sophisticated camera for this technically challenging photograph, made in about -26C temperatures. (I wasn't outside for long!)

Image engines: these are the things which take the electrical information from the sensor and convert it into an image file on the memory card; they're little computer programs built into your camera. Typically, these produce JPEG files, and there are better and worse ways to do that. My newer camera makes better JPEGs than my slightly older one - a visible difference. (Thank goodness for post-processing!)

(On that topic, your camera will likely have a setting - or two or three - for JPEG-quality, and I know of no reason not to set everything always to the highest size and quality possible.)

Raw files: once beyond the more basic models of camera, you can generate not only JPEGs but also "raw" files, on which no (or less) processing occurs, and, unlike JPEGs, none of the data gets *compressed*. Also, they have more "bit-depth" (very exciting!). Raw files allow fine details to show better, examples including i) more smoothly producing areas of subtle colour gradation and ii) extracting useable material (in editing) from the shadow-areas of images.

The downside of raw image files is that they require software and some degree of expertise to edit. (Higher degrees of expertise are of course better!) They will also take more time, at least a few mouse-clicks, to convert to something useful, such as a JPEG or a TIFF file. The somewhat rabid contingent of techno-geek photographers, who insist that everything should be "raw", does so, in my humble opinion, for theoretical reasons. Not every photograph, by any means, requires *or will visibly benefit* from the extra quality available with raw files. But they can, on occasion, be most useful, and less costly cameras don't always provide them.

Vibration: cameras have moving parts inside them, which can include some combination of the shutter, the iris and the mirror, and so all cameras shake just at the moment of exposure, when you have worked so hard to hold them still. There are circumstances where this is more of a problem than others - slow shutter speeds being only one example - but obviously many people produce wonderful photographs, so it is not an impassable obstacle. Presumably - I'm not sure, frankly - better cameras shake less.

Along these lines are **image-stabilizers**, ingenious devices using tiny motion-sensors and motors which respond in milli-seconds to counter camera-shake and therefore allow sharper images. They are advertised more as useful to reduce user-movement than internal camera-movement. Usually, image stabilizers steady either the sensor or the lens elements. Some exotic systems do both, with impressive results if both components can communicate with each other electronically and work in concert.

Again, people made extraordinary images long before stabilization became a thing, so please learn how to hold your camera still, know its limitations, and get on with making photographs. Yet there is no denying that better image stabilization technology has greatly advanced photographic versatility.

Accessories: this could be a separate essay unto itself, so let me give just a few examples.

1. remote flash. The principle is to get your flash off your camera - again, another topic. So, how well your camera supports remote flashes does matter. Assuming that it can trigger them, then how easily and accurately can it control exposure, how far away can the remote flashes be, and how much interference will other bright lights create? What quality and strength and versatility of flashes are available for your camera? Is the system light-controlled, or radio-controlled, and how many of the flash adjustments can the remote-flash system control?
2. remote control. My latest camera can connect to my smart-phone (or tablet), and I can adjust many of its parameters and then release the shutter from there. Does that have anything to do with "light and composition"? No. Well ... yes. It's a good thing, if used appropriately, in service of making a better image, not just because it's fun to play with. (But it is fun to play with.)

Then there are battery-holders, AC-electricity adapters, lens adaptors for non-standard lenses, specialized viewfinder attachments, under-water cases ... check for "accessories" on manufacturer web sites, and know that it almost doesn't end.

So ... gear or skill?

So, again note that better equipment is better ... and more complicated, more to learn, more to spend, more to break ... and more to distract from the much more important *art* of photography. Many excellent, even superlative photographs, come from entry-level equipment.

Never apologize for your camera-gear, and yet get the best that you can, within a budget which you deem reasonable. Think a little more about *lenses* - they need roughly to match your camera's abilities, but a nice lens creates things of beauty! Know the features of your camera and how to operate them quickly and accurately while shooting.

Always remember that the most important piece of photographic equipment you own is inside your cranium. Good equipment cannot even begin to replace the life-long pursuit and understanding of light and composition. That is where good photographs start.

Good gear enables a skilled photographer to produce great images. It absolutely and unequivocally cannot create them itself.



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