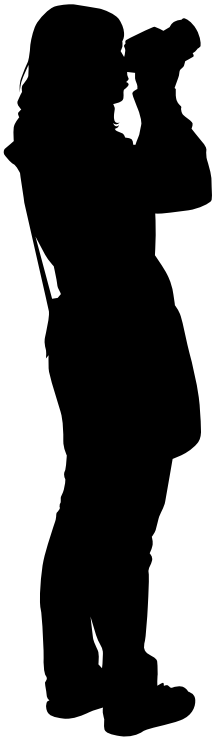
ROCKABLE

presents

HOW TO TAKE GREAT PHOTOS

with whatever camera you got!

Peter Tellone



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PREFACE

Preface

Look at this shot and remember it. I won't talk about it again until the end of the book. (No, don't peek.)

Almost everyone these days has a digital camera but what makes one person's photographs more interesting than the next? In this book we will show you many ingredients that you can add to your photos to make them stand out and make them into photographs rather than snapshots.

We'll cover the different types of cameras, composition, lighting, the basics of exposure and then move on to finishing and the display of your images in a more professional manner.

Most of the images included in this book have the lens focal length, the ISO, shutter speed and aperture included in the image to try

to help show the effect that all these parameters may have on an image. They are not there as a guide on how **you** should shoot, but to show what effects they may have.

Fig 0-1. image information: 1. focal length, 2. ISO, 3. shutter speed, 4. aperture.

This book is for everyone, whether you are just starting out with your first point-and-shoot or have had a better consumer camera for a while but just can't get "that" look of photos you see in magazines or online.

As a professional photographer that has taught many photographers both amateur and professional, I know sometimes we get caught up in "tech speak" which becomes meaningless to people just starting out. So in this book, we will explain it in plain English so that everyone is able to understand, learn and get the most out of any camera they may have.

It's Not the Hammer, It's the Carpenter

A popular joke among photographers is: "Wow, that's a great photo, you must have a nice camera." The funniest part of that is a lot of people believe that it's true. People look at my camera, a high-end professional model, and say, "That must take great pictures" I always say, no **it** doesn't take any pictures at all, **I** do. And that's the truth. Cameras are a tool and just like the hammer in the title, without someone knowing how to swing it, it really doesn't do very much.

The photographer is the biggest difference in how an image looks. More megapixels or better lenses can not compensate for talent. A lesser camera in the hands of someone that has the eye and the vision will far exceed the results of someone with the best and most expensive camera but who can't understand what makes an image.

But let's discuss what different types of cameras there are and what makes one a consumer camera and another a professional one. There are some features that in the right hands can make a difference but it's not what you might think.

Point & Shoot Cameras

The name itself "Point & Shoot" kind of tells the story — just point and shoot the picture without any thought or knowledge, but **is** that the whole story? Back in the good old days of film (that's the smelly plastic stuff that came in rolls), consumer cameras were very limited. They had very small negatives and weren't capable of producing much more than a 4″×6″ print. But the digital point-and-shoot cameras of today are much different. It's hard to find

one that doesn't have at least 10 megapixels, which mean they can easily be made into 12″×18″ wall prints. Some have very good lenses made by such top names in optics like Zeiss and Leica. They have modes besides full auto that allow you to take control. Those different modes and settings can be used to make various artistic decisions that we will learn about later in this book.

They do have some limitations. They have smaller digital sensors than *DSLRs* (or Digital Single Lens Reflex — a type of camera we'll learn more about in just a minute) and that can lead to some picture quality differences between say a point-and-shoot and a DSLR of the same megapixel rating. They tend to produce more noise in low light situations also. But one side effect that is actually a good thing is that smaller sensors are actually better at *macro photography* (close-up life-size images). The lenses on point-and-shoots are not interchangeable so you don't have all the choices that a DSLR would have but most have a very usable zoom range.

Their flashes are smaller and less powerful, which limits how far from the camera the flash can effectively illuminate a subject. Because of their small size, point-and-shoots often have smaller batteries which means they often can't operate as long without needing their batteries changed, or if integrated into the unit, recharged.

Fig 1-1. a standard point-and-shoot digital camera.

Now, I've told you of their limitations but that does not mean at all that they limit your creativity. That part is still largely up to you. In fact, their small size and compactness makes it easy to carry them around. You will find yourself happy that you had a camera with you when the time and place was just right to get that perfect shot — one you would have missed if all you had was a

huge monstrosity of a camera which you decided to leave behind at home or in your car rather than drag it along with you.

Hybrids

The next step up from the pure point-and-shoot cameras are something of a hybrid. They still have the same sensors as a point-and-shoots, but may add interchangeable lenses or accessory lenses that slip over the fixed lens to extend the capabilities of the camera. They may also have a "hotshoe" that allows an external flash unit to be attached, again, to extend its capabilities. People who upgrade to these cameras often want the ease of use of a point-and-shoot with some extended capabilities but are afraid to make the leap up to DSLRs for fear they may be too difficult or complicated to understand (don't worry, they are not).

Fig 1-2. a hybrid (sometimes called prosumer) camera.

DSLRs

From there we get into consumer DSLRs. A single lens reflex has a series of mirrors and prisms between the viewfinder and lens that allow you to see through the lens as you look into the viewfinder. This allows you to shoot what you see instead of just an approximation.

DSLRs open up a lot of opportunities and options for photographers. In the first place, they have larger sensors, which help capture images that have better clarity and lower noise, and they have better low light capabilities. Then there is the biggest advantage of DSLRs, the ability to change lenses. All the top

manufacturers have literally tens to hundreds of different, high quality lenses to choose from: everything from normal lenses, to wide angles, to telephotos. This allows you to have the right lens for any situation.

DSLRs are larger and able to carry larger batteries, and so can shoot more pictures before needing a charge or change of batteries. They have *hot shoes* and offer many different choices for auxiliary flash units. There are a multitude of accessories available, everything from remote controls to devices to have a flash off the camera or even to have multiple flashes all fire at once.

Fig 1-3. a hotshoe.

One major difference you will find when you move up to a DSLR is the amount of lag time between when you press the button and when the shutter opens. In point-and-shoot cameras there is always a lag which leads to a lot of missed shots. DSLRs, on the other hand, are for all practical purposes instantaneous. If you shoot a lot of sports or action shots a DSLR will make a big difference here.

ROCK* TECH TERM

hot shoe
A slip-in interface or "shoe" into which you would slide an external flash unit. The "hot" part means that it triggers and sends information to and from the flash unit.

DSLRs also have the ability to shoot multiple *frames per second* (FPS), usually between two and five. Again, this is great for shooting action subjects, sports and wildlife, because the camera is able to capture distinct moments of fast-moving scenes — scenes for which we may not be able to press the button at exactly the right time to be able to capture them.

Professional DSLRs

Professional DSLRs may not be everything you think. Yes, they are the best quality, but that may not always translate into superior photographs. In a lot of cases, pro DSLRs share the same sensors and features with some of the higher end consumer DSLRs. Sometimes pro cameras even have fewer features and instead focus on quality of materials and build.

Fig 1-4. DLSRs feature high-quality, interchangeable lenses.

Professional cameras are not only built for the ultimate in image quality but they are also built to withstand the rigors of professional use. The bodies are often magnesium or other high strength, low weight alloys instead of plastic. The bodies and lenses are many times weather sealed for use in all types of conditions. Whereas many consumer shutters are built to hold up for 10,000 clicks in their life, professional shutters are built to last for 100,000 clicks or more before needing replacement.

The lenses that professionals buy are also of a much higher quality and that does lead to improved image quality. But the good news about that is that many of those high end professional lenses will also fit the lower end consumer DSLRs.

In the hands of a knowledgeable professional, these cameras are the ultimate. But if someone doesn't know an f-stop from a bus stop… these cameras are no better than a point-and-shoot and really make… bad hammers.

2

Stop Taking Snapshots, Start Taking Photographs

I'm lucky. I live in a beautiful part of the world that is visited by millions of tourists a year. I see them all the time, their cars pull up to the ocean coast, they pile out with their arms outstretched, viewing the world though their LCD, and they take a "snapshot" of the beautiful ocean in front of them. Then they all gather together and ask someone (usually me) "Can you take our picture?" And I take a "snapshot" of them standing in front of the ocean. Snapshots are great. Millions of people around the world take hundreds of millions of them every year.

Fig 2-1. A typical "snapshot."

The Snapshot vs. the Photograph

A snapshot is a capture of a time and place, a remembrance, and that is all most people want from them. I love them, I have boxes full of them from when I was a kid and the places we went and good times my family had. I wouldn't trade them for anything and they're probably the only things I would want to save in a fire. But, they are not photographs or photographic images or art (though what is art is disputable).

A photograph has to grab the viewer's attention, has to direct the viewer where the artist wants them to go. It leads them to the subject even when the subject is not clear at first glance. It can tell a story or sometimes just convey a sense. It must touch that person viewing it in some way but it will not touch everyone — that's why it's art.

A snapshot has no central focus. It is filled with peripheral elements that the mind must filter out. The mind can do that when it is at the scene but it can't do that when the image is in a place now filled with other elements (for example, an image in a gallery or held in your hand or on a wall at home). So a photographer needs to filter those peripheral elements out of the image and just concentrate on a central subject.

Okay, I know you're bored now, so let's get past the "theory" and onto "how can I" stop taking snapshots and start taking photographs?"

First let's just delve briefly in the different types of photography so you know what the focus may be depending on the type of work you like.

ROCK* TECH TERM

macro photography
Close up shooting of an object with lifelike proportions.

- **Portrait photography:** This is simply people-shooting. It can be posed and formal or relaxed and natural. But the focus is on the person to bring out “them”: the background or the setting is not the subject.
- **Landscape/Nature/Wildlife:** This group focuses on the outdoors and the natural world including its creatures. The focus is what is beautiful in that setting: the light, the color or contrast.
- **Travel:** Travel can be a combination of both landscapes and portraits. It is telling the story of a different land and different people, and it conveys the differences between your destination and your home land.
- **Photojournalistic:** This form is all about telling a story. It may not be artistic or pretty to the eye, but it tells a story without even the need for a headline.
- **Still Life:** This is the shooting of objects, whether a bowl of fruit or flowers or any still object. This may include macro photography.

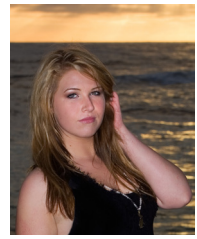

Fig 2-2. (top–bottom): portrait, landscape, travel, photojournalistic, still life photography.

3

Getting a Photographer's Vision

The essential ingredient to moving from taking snapshots to photographs is getting a photographer's vision. The two keys to a photographer's vision are light and composition. *Light* is the essence of photography. You'll often hear photographers say, "It's all about the light." Being able to see "good" light from bad and the effect of shadow is everything to a good photograph and a photographer.

The other key is composition. *Composition* is the flow and the order to a photograph, establishing a subject and a background and using good photographic techniques to lead the viewer to that subject.

Now, can someone be taught to have the same vision that professional photographers or artists have? My opinion is: no, I don't think you can be taught to be an artist in that sense, any more than you can be taught to be intelligent. You either are or you aren't. **But,** you can train yourself to develop the artistry or intelligence you already have. Much of what professional photographers do you can also accomplish with a little effort. That is what we will set out to do. You may already be seeing this way, you just don't know it.

Now remember the snapshot shooter I talked about before? They get out of their car and "snap!"

This… is a snapshot: there is no central subject to the image, the midday light is flat, has poor color and produces high contrast, the foreground is boring and adds nothing to the image, the horizon line is crooked and an auto-average safe exposure was used just to get the shot. Now take note of the arrow because that is where I will be four hours later (figure 3-1, top image, on p. 21).

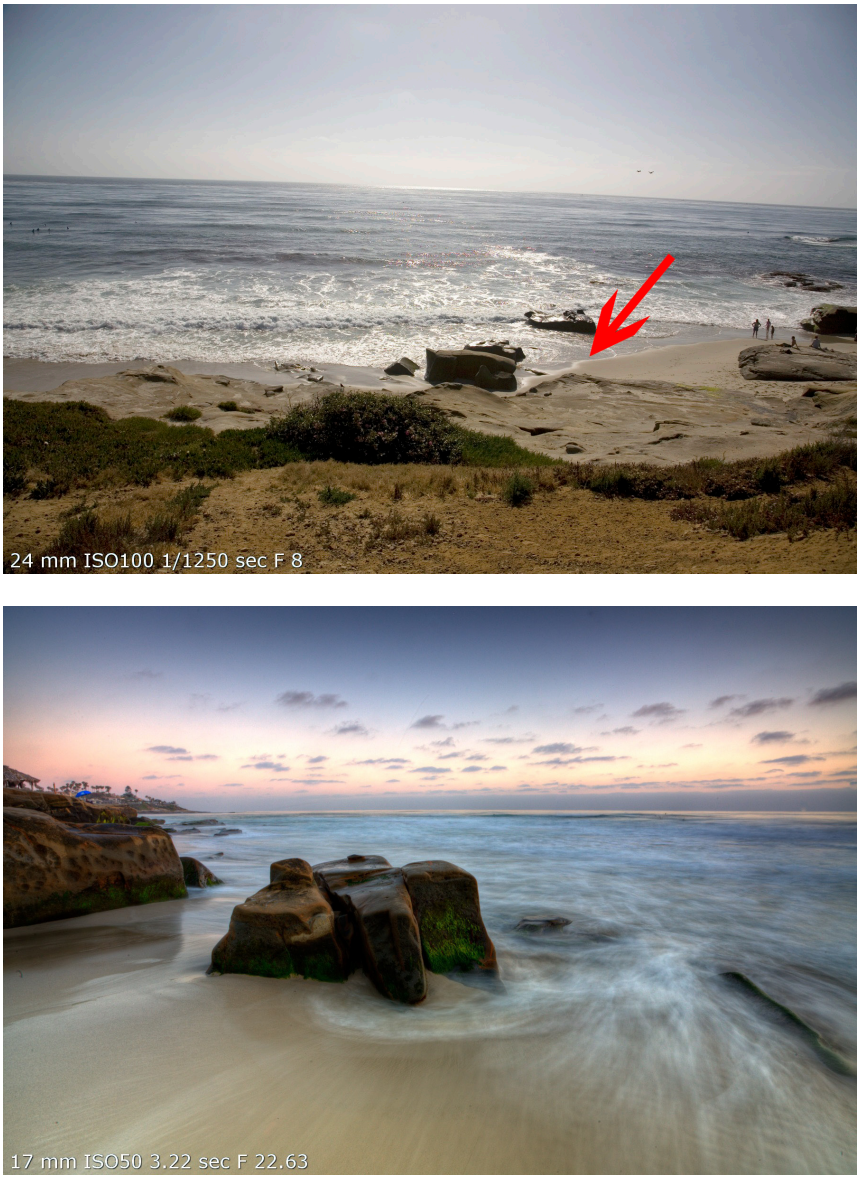

Fig 3-1. a typical "snapshot" (top) in contrast to a "photograph" (bottom) taken from the same location as indicated by the arrow.

The "photograph" (at the bottom of figure 3-1) was taken just four hours later at the same spot where the arrow pointed to in the preceding "snapshot". The same location but now I brought myself down into the subject.

So what have I added to it now to make this a photograph? I've added the three essentials to good photography:

- **Light:** Instead of the harsh, boring, high contrast light of midday, I am now shooting just after sunset when the light is soft, warm and colorful.
- **Composition:** I have a clearly defined foreground subject (the rock). I've used the "Rule of Thirds" and did not center my subject. I have a "lead-in" line (the line in the water's foam) to lead me into the background. And a nice straight horizon line.
- **Artistic Use of Exposure:** I used a small aperture (f/16) to give a deeper "depth of field" so that my image is in focus from foreground to background. And then I used a slow shutter speed to both silken the water and also to show the motion of the water.

Finding the Light

Study these two photographs both of the same subject. One has very flat lighting — see anything interesting about this one? Now compare it to this one shot at a different time with better light **and** shadow. See how the lines are accentuated, the subject is clear and defined. The only difference: the light.

How do you find good light? Finding good light can depend on the hour. There is the talked about "Golden Hours." These are the hours just after sunrise and just before sunset, when the light

is lower, softer, more colorful. Some, such as I, include the hour before sunrise and the hour after sunset as perfect times to shoot.

The time of year can change the light, The fall is known for its good color and winter is a great time to shoot (though cold) because the sun is at a lower angle giving great depth and shadows.

Fig 3-2. There are times when you want the flat light of the image on the left. If you were looking for the ultimate detail of an object, say for scientific work or maybe even for selling an object in a catalog, you may want that flatter light. But it won't have the drama for an image on a wall for display.

Your angle to the sun you shoot at matters too. Remember the old adage, "Always shoot with the sun to your back"? Well truthfully — no, don't. I'm not saying never because I break rules all the time, but most times it is best to shoot at an angle to the sun.

Again, it gives more depth to objects as the shadows lead out from them to the side. Surprisingly, if executed correctly, shooting into the sun can also produce great results. Find an object, say a tree, to block most of the sun's brightness and then see how backlighting the tree makes for a fantastic scene, especially with long shadows leading towards the camera.

There can even be a difference if you are shooting in sunlight or shade. Try to avoid taking portrait shots in the middle of the day, as the strong light will produce harsh shadows under their eyes,

Fig 3-3. A portrait taken in bright midday light produces strong shadows from the features of the face.

nose and chin. It is also important to remember that a hat will cast large shadows over a face, which will obstruct detail.

If you can't wait until later in the day when the light is at a lower angle or softer, take them into the full shade of a tree or a building or other shelter. The shade will provide a softer, more even light and eliminate those harsh shadows. Just be careful of filtered or dappled light, where they mostly are in shade but the sunlight is poking through in some spots. These can lead to hotspots on the face that will be hard to get rid of later.

Even the side of the house windows are on in your house or studio can change the light. Windows on the southern side of the house can offer harder light. Windows to the north tend to offer softer, more diffused light. Neither is right, just different and will be preferable depending on your subject and the look you want.

Light is everything and you either find it… or you create it. I'll talk more about that in a later chapter.

Composing as a Photographer

There are some basic tenets to good compositions. Certain elements make for a pleasing arrangement and are appealing to the eye. These aesthetics are in photography, in art, in architecture and design, and even in nature. They're what makes something look good and what makes other things look bad. Here are some basic suggestions on how to blend good aesthetics into your photography. I say "suggestions" because I hate "rules" and **love** breaking them. So here goes…

The Rule of Thirds (darn, there's that rule word)

Most times having the subject of your photograph centered is not very pleasing — in fact it is downright boring. So it is best to have

your subject in one of the intersections of thirds of your image. I've drawn some lines on the image below to illustrate this. I've divided the image into thirds and as you can see the subject falls within those intersections. This can be true not only for intersections but other lines in images, such as the horizon or ridge lines. Keeping them away from center will increase the interest and look of your image.

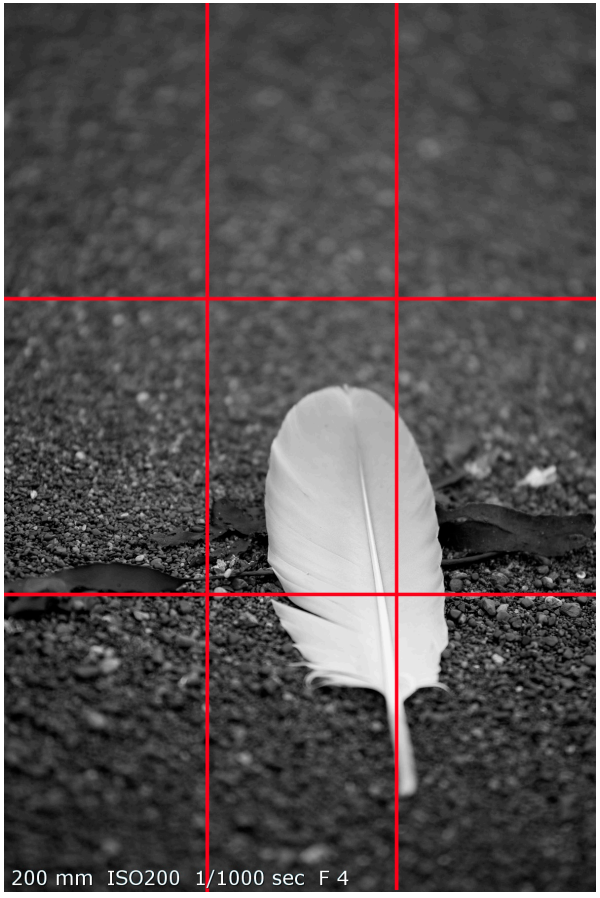

Fig 3-4. This feather dynamically aligns a third from the bottom and right instead of being statically placed in the center of the image as a whole.

Fig 3-5. The railing of this walkway focuses the viewer's attention on the far end of the walkway.

Leading Lines

Leading lines are lines or elongated objects that either lead the viewer to the subject or lead from the subject to the background. These help define the photograph. It takes the viewer where you want to them to go.

Balance

Balance in a photograph can come two ways: symmetrical or asymmetrical. *Symmetrical* is having two objects of the same weight or size opposed to each other. *Asymmetrical* would be two (or more) objects that have different weights but are positioned such that they give balance to an image.

Fig 3-6. (left) these baskets of berries mirror their colors and shapes producing a symmetrical arrangement, (right) the weight of the front tree is offset by the weight of the three trees in the background — this composition is asymmetrical but balanced.

Fig 3-7. Grape vines naturally frame this winery and its land.

Natural Frames

Just like framing a photograph or a work of art can increase its appeal, finding natural frames for your subject in the landscape or portrait can make for very pleasing compositions.

Bad Lines and Backgrounds

We talked about good lines (leading) before but sometimes lines or objects in the background in the wrong place can make for a distracting image. When photographing people, try to keep horizon lines from cutting through people's heads. Also look for poles and trees and objects that stick out of the top of people's heads. Lastly, look for clutter or junk in the background. They all make for a poor composition. So make sure you concentrate not only on your subject but also on what is behind them.

Fig 3-8. Bad composition! The pole, the horizon and the clutter compete with the true subject for our attention.

4

The Three Basics of Exposure

Exposure

Exposure is getting the perfect amount of light onto your digital sensor or film, so that there is detail in both shadow and light, contrast and good color. We'll talk about the three things that control exposure and then how to use each of those to increase the artistic appeal of every photograph you take and also how to balance the three for a perfect exposure.

Aperture

Aperture is the adjustable opening in your lens that allows light to pass through to the digital sensor or film. It goes from very small to almost as large as the lens glass itself. To express the size of the opening, aperture is enumerated in "f stops" with the largest opening being the smallest number and the smallest opening being the largest number. Yes, that seems backwards but not so much when you know that it is actually a fraction or ratio just like how ½ is larger than ¼.

A typical range of apertures, from largest to smallest, would look like this:

- f1.4, f2.0, f2.8, f4.0 f5.6, f8.0, f11, f16, f22

Now your camera may have more numbers in between but the above are known as whole steps. A whole step represents a halving or doubling of light.

Shutter Speed

Shutter speed is how long the shutter of a given aperture is open to allow light to hit the digital sensor or film. The longer your shutter is open the more light will hit the sensor. Shutter speed is enumerated in seconds or parts thereof: 1, ½, ¼ 1/15, 1/30, 1/60, 1/125, 1/250, 1/500. But on most modern cameras the "1/" of the fraction is dropped so 1/125th is expressed as 125. Each doubling or halving of speed, indicates a doubling or halving of light.

ISO

ISO is the sensitivity to light of the digital sensor or film. The higher the number, the more sensitive the sensor will be to light. ISO is expressed as 100, 200, 400, 800, 1600, 3200, etc., with each doubling in number representing a doubling in sensitivity.

Okay, that's nice technical mumbo jumbo now how do I use that?

Great, well at least I know I haven't put you to sleep. Excellent question. Now that we know what the different pieces are, how can we use them to make better photographs and not just — yes that's right — snapshots?

Artistic Use of Aperture

So what does aperture control in the creative and artistic process? Aperture controls depth of field or DOF as it is known. What is depth of field? *Depth of field* is the amount of depth in our image that is in focus or in the field of focus. A shallow depth of field would have the subject in focus but everything in front of it and behind it out of focus, isolating the subject. A deep depth of field would be in focus all the way from the foreground out to infinity.

Different types of photography use different DOF. Typically, portrait photography will use a shallow depth of field to isolate the subject person and keep the focus on them rather than a distracting background. Still lifes may use a shallow DOF for the same reason. Landscapes will often use a very deep DOF from a foreground subject all the way out to the horizon at infinity because in a landscape image everything is important and needs to be recognized and in good focus.

Now **how** do we use aperture to control DOF? The larger the aperture (and therefore the smaller the f number), the shallower the DOF. The smaller the aperture (and so the bigger the f number) the deeper the DOF.

Fig 4-1. a large aperture produces a shallow depth of field (left), while a small aperture makes the depth of field deeper, bringing the background into focus (right).

If we were shooting wildflowers and we wanted to isolate them from the background we would use a large aperture such as f2.8 or f4.

If instead we were shooting a meadow of flowers extending out to beautiful mountains in the background we would use a small aperture such as f11 or f16.

Artistic Use of Shutter Speed

Shutter speed is used to either stop motion or to show motion.

If we want to stop motion, such as an athlete in their sport, a race car going by, or even that of a bird flying, we would use a high or "fast" shutter speed, usually 1/500th or faster. This will make the objects appear frozen.

Fig 4-2. high shutter speeds freeze the subject, preserving details.

But there are also times that we want to show motion: that of the movement of dancers dancing, or to silken the water in a waterfall to show the rushing of the water. To do this we would use a low or "slow" shutter speed, from 1/30th of a second all the way down to as many as 10 seconds long. One word of caution here: if you are going to use a slow shutter speed, you need to mount your camera on a steady tripod. Else you will not only see the motion of the object but the movement of the camera in your hand. This will yield blurry pictures. So while we want to see movement, we only want to see it in our subject.

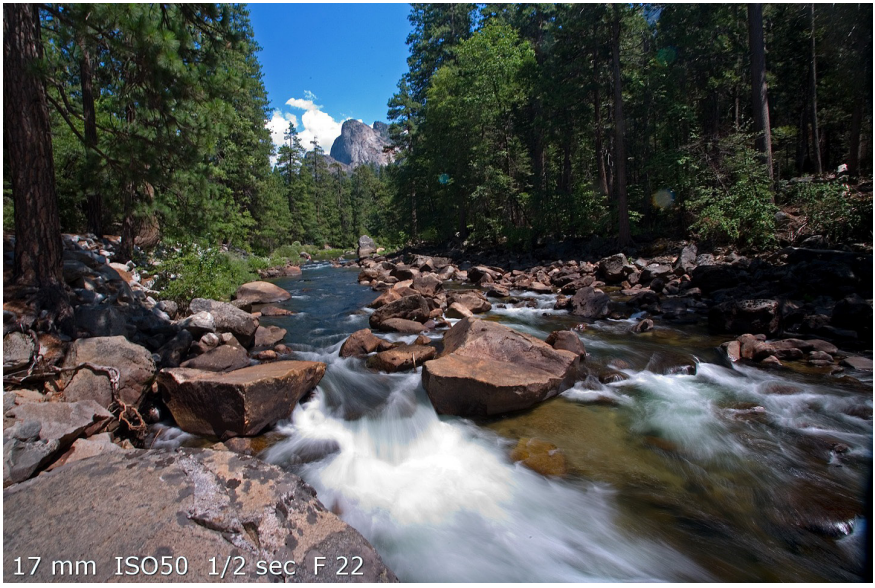

Fig 4-3. a slow shutter speed allows moving objects to blur such as the water rushing in this river.

While we are on the subject, there is a range of shutter speeds that are appropriate for hand holding without a tripod. Otherwise, you will not have sharp, clear images. This depends how steady your hands are, but as a rule of thumb, most people are able to hand hold a camera at "1/" or one over the focal length of their lens.

So if you are shooting with a 200mm lens, your minimum shutter speed should be 1/200th of a second. Anything slower than that and you should be on a tripod or at least a monopod.

Panning

There are times when we want to stop the action of our subject but blur the background, again, to show motion. This is done by using a technique called *panning*. This uses a relatively slow shutter speed, how slow depends on the speed of your subject: the faster the subject, the faster the speed you can use. In general 1/30th or 1/15th of a second is sufficient, though you may go up as high as 1/100 with, say, a race car.

Put your camera on a monopod to keep the motion steady and follow along with your subject as it moves. When it gets to the point you want in the composition, press your shutter button but follow through with the panning motion. Now this take a **lot** of practice, but once mastered will add some real style and substance to your image and convey to the viewer of the photo the speed at which your object was moving.

ROCK* TECH TERM

monopod
a single legged camera stand.

Figure 4-4 shows a motorcycle taken at a high shutter speed — it stops all action. This may be what you want, but you don't get a sense of the speed that it is traveling at.

The motorcycle in figure 4-5 was taken panning with a much slower shutter speed and as it blurs the background you get a sense of the speed. Also look at the wheels and you can see the motion in them.

Fig 4-4. the 1/2000th of a second shutter speed freezes the motorcycle.

Fig 4-5. panning with a slower shutter speed partly freezes the subject, but still captures some of its motion.

Artistic Use of ISO

Now if we remember from the definition earlier in this chapter, ISO is the sensitivity to light of either our digital sensor or film. Now you may ask: if we can make the sensor more sensitive, why not always use a higher ISO? The problem with that is a side effect of higher ISOs called noise. This will appear as grain or pixelization in your image. To minimize this we want to use the lowest ISO possible for the light conditions we have.

On a bright sunny day outdoors there is always enough light that we can set our cameras on the lowest ISO, usually 100 or 200. As we move into some highly shaded areas we may need to move up to ISO 400 especially if we have the need for a higher shutter speed or can't use a tripod. As we move indoors, depending on the lighting we now need to move up to ISO 800 or higher to capture our images, again when it is not possible to use a tripod or if we need to stop the action.

Fig 4-6. this image was handheld using a high ISO but with a tripod; low ISO shots at night are possible providing you have no moving subjects.

Shooting scenes at night on the street would also call for using a higher ISO. But suppose we can use a tripod and don't have to worry about stopping the motion of an object. In that case it would be better to use a tripod and a slow shutter speed along with a low ISO. You will still capture the image but have much less noise to deal with in your image.

5

Get Out of the Green Box

What's the green box? No, it's not a new recycling term. Take your camera out right now. Look down at the top of it for the controls. See that green box it's set to? (Don't be a fibber — you know it's set there). That's the green box: the auto setting on your camera.

Now I have to be honest. To keep things simple while you are learning about composition and light, you probably should keep it on green box auto. It lets you worry about one thing at a time without getting confused by other technicalities like camera settings. So until you feel somewhat comfortable with the rules of light and composition, it's okay to keep it on the green box.

Fig 5-1. a typical camera dial with the "green box" that indicates automatic mode.

But once you want to move farther with photography and learn to use your camera's settings to become more proficient and artistic with the different options that are available, you need to leave the comfort of your big green box.

The "Other" Settings

Most manufacturers refer to the "other" settings as their "creative" modes because they do just that — they allow you to get creative with your photos as we just learned about in the last chapter.

Aperture Priority

Aperture Priority is a semi-automatic mode. You select the aperture and the camera will select an appropriate shutter speed to get the correct exposure. This mode is often abbreviated as **AV** (Aperture Value), **AP** or simply **A** on your mode dial.

So say you want to shoot a portrait and you want to blur the background behind your model. As we learned in the previous chapter we want to use a large aperture. So we would set our camera to Aperture Priority mode and then choose an aperture, with one of the other controls on your camera, (they vary from model to model

Fig 5-2. a photograph taken in AP (Aperture Priority) mode.

and brand to brand — check your owner's manual). We would chose an aperture of f4.0, or even f 2.8 if your lens offers one that wide. The camera will now decide for you an appropriate shutter speed.

The one caution here is we have to keep an eye on what shutter speed the camera has chosen for us. If the light is dim the camera may choose a shutter speed that is far too slow either to hold the camera without shaking or to stop the action if our subject is moving (such as trying to stop a toddler in action). So if we see that our shutter speed is too low, we can either use a tripod or we can adjust our ISO higher so that our shutter speed increases to a hand hold-able range or one that will stop action. We want our backgrounds blurred because of DOF (remember what that was?) but we don't want our subject blurry from motion.

Shutter Priority

In this semi-auto mode, you choose the desired shutter speed and the camera will select the appropriate aperture for a good exposure. You would use this mode when you want to set a high shutter speed to stop action or a slow shutter speed to show it.

Fig 5-3. a photograph taken in SP (Shutter Priority) mode.

So set your mode dial to Shutter Priority, choose the shutter speed you want, compose and fire away. This mode is often abbreviated as **TV** (Time Value), **SP** or **S**.

In this mode the note of caution is to keep an eye on the aperture that your camera chooses. Say you are shooting a race car but you want not only to stop the action but also show the crowd in the background. That would require a deep DOF. If you select a high shutter speed but the camera selects an aperture of say f4, you would **not** get the DOF you need. So again you may have to make some changes in ISO (higher) in order for the camera to give you both the shutter speed **you** choose and the correct aperture you need.

Manual Mode

The ultimate creative mode, **you** are in charge of it all.

It's the **M** on your mode dial.

I believe everyone that is serious about photography should know how and why to use the full manual mode of your camera. It's the best way for you both to learn about what affects what in exposure and truly to make some creative choices in everything that goes into exposure and good use of that in your compositions.

But I do want to make a point here. While I firmly believe that everyone should know how and why to shoot in manual doesn't mean you always have to use it. I see many people that proclaim loudly "I **only** shoot in manual" which is fine but really not always necessary. In my shooting, 75% of what I shoot is in some type of semi-auto mode (**AV** or **TV**).

When do I switch to full manual mode? When I know the camera or more precisely when I know the camera's meter will get it wrong.

Modern light meters in cameras are a marvel of design and technology and for almost all situations they do a great job of getting it right. But there are situations where they are not smarter than you. Some of these are:

- **Backlit situations:** When the sun or the light is behind your subject. Meters will get it wrong for one of two reasons. They will expose for the background, make your subject too dark to see and you will only get a silhouette. Or, if you are trying to get a silhouette, the meter will instead expose the person correctly, but blowout the background and not give you the silhouette you desired.

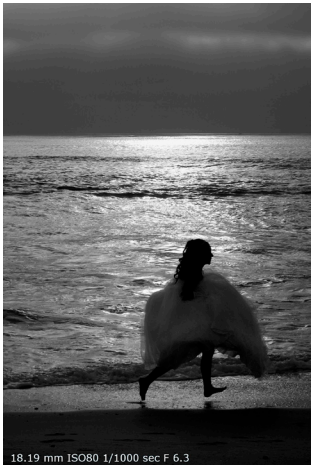

Fig 5-4. backlit situations present a challenge for the photographer.

- **Creative flash shots:** When using a flash indoors, or when using it creatively outdoors, manual mode is often best because the meter does not know that the flash will fire and provide light. The side effect of using other modes is that your shutter speed may be too slow or your aperture not high enough to give you the DOF desired.

- **When you are recomposing a shot for good use of composition:** Often when we want to move our subject to an area in the composition that works with our rule of thirds, the focus point sensor may no longer be on our subject. The focus point sensor in many cases is the point that the light meter uses to meter off of. We will get a bad exposure because the meter will expose for something other

than what we want, which is our subject.

ROCK* TECH TERM

blowout
Overexposure leading to a loss of detail.

- **When photographing a subject, or a vast area that is not a midtone color:** Meters are designed to get the exposure right on a midtone color. Think green grass or blue skies. But if our subject or a large area is black or white the camera meter will try to make them the midtone. This will cause blacks to be over-exposed and whites to be under-exposed. So if we were in manual and we knew this, we could change the exposure to compensate for this fact.

- **When there is a larger dynamic range then our cameras are capable of capturing:** Sometimes a scene will have so much dynamic range or contrast, it is more than our cameras are capable of handling, so at that point we have to make a decision on what part of the scene is most important to the composition and adjust the exposure for that part. An example would be shooting a sunset. If we meter on the sun the image will be completely dark except for the sun. If we meter way far away from the sun, the sun and surrounding sky will be completely blown out and have no detail. If we meter just to the side of the sun or a little above it we can reach a good compromise in exposure of our scene.

ROCK* TECH TERM

dynamic range
The range from the brightest part of our scene to the darkest.

Hey, wait a minute! My camera doesn't have creative modes!

Well, that's true, some less expensive point-and-shoot cameras don't have creative modes so you may not be able to take control like these modes allow you to. But that doesn't mean you can't still make good use of the other two essentials of photography: composition and light.

But really I haven't forgotten about you and neither have the camera manufacturers. While some point-and-shoots may not offer creative modes, many have what are known as scene modes. While not having the ultimate control like you do with creative modes, *scene modes* are preset auto modes that are optimized for the type of image you are shooting and incorporate many of the things you may have set yourself in the creative modes.

Typical scene modes include: Sports, Portrait, Landscape, Night, Sand/Snow, and many others. The Sports mode will preset a high shutter speed and a higher ISO to stop action. The Portrait mode will preset a lower, more wide open aperture for a shallow DOF to isolate your subject. Landscape will use a smaller aperture for full DOF.

So while you may not be able to define and regulate your creative exposures, these scene presets will help you to have some artistic control over your photographs.

6

The Glass Is Always Full

Glass — it's what advanced and pro photographers call lenses. You'll hear them say: great glass, fast glass, expensive glass, amazing glass, cheap glass. Of course it is referring to the glass that lenses contain, even if some cheap ones are plastic. So let's take some time to look at lenses, and more importantly, when to use what type and for what shots.

Lenses are talked about in focal lengths and then divided into groups of focal lengths. From there they are broken down into *fixed lenses* (those that are only one focal length), and *zooms* (those that are adjustable for multiple focal lengths).

Okay, one thing that needs to be discussed before we go any further is *focal length conversion,* or what are known as "crop factors." The same lens will look different (more magnified looking) depending on what size sensor you have. Point-and-shoot cameras have a very small sensor that is less than half the size of those in consumer DSLRs. Then there are the consumer DSLRs that have a "crop" **AP-C** sensor. Finally, pro DSLRs have what is known as a full frame sensor.

ROCK* TECH TERM

full frame sensor
A sensor that is equivalent in size to what 35mm film was.

Now so that we can compare lenses on different sensor size cameras, we need a common point. What is used is the "35mm equivalent size" or "full frame equivalent." All that means is this is how that lens would look in terms of a 35mm film camera, or a pro DSLR with a full frame sensor.

Luckily, point-and-shoot manufacturers have started listing their lenses in those terms. But consumer DSLRs do not, so you have

to multiply by the crop ratio of the camera to get that number. In general, Canon are 1.6× and Nikon are 1.5×. So a 50mm lens on a Nikon would be a 75mm in 35mm film/full frame terms.

I know that is a lot to grasp but it will help when we talk about different lenses, since what may be one type on one camera, may end up in a different group on another camera.

Lens Types

Fixed Lens vs. Zoom Lens

A fixed lens is only one focal length, and as they say you must "zoom with your feet," meaning you have to move to change what fits in the frame. Zoom lenses are multiple focal lengths. You will see them expressed as 18-55mm so you can zoom from a wide angle 18mm to a 55mm normal lens without having to change your position physically.

Wide Angle Lens

In general wide angle lenses go from about 15mm to about 35mm (again, this is in full frame terms). Wide angle lenses are great for shooting landscapes and for shooting architecture indoors and out. Wide angles are not good for shooting portrait because in general they distort the person and can make any attributes that stand out on a person more noticeable (for example, large noses or they give the impression that a person has gained weight).

Normal or Standard Lens

Normal lenses range from about 35mm to 70mm. These are good general lenses, good for shooting objects and closer parts (details) of architecture and landscape. It's also nice for travel. As you

get closer to the 70mm range they start to be what are known as "portrait lenses" (good to shoot people with), but most of these fall into the next category of lenses.

Telephoto Lens

These start at about 70mm and run all the way out to 600mm and even more. They offer more magnification and bring distant subjects into the frame of your camera. They are often used for sports and wildlife shooting where you can't get physically close to the players or the animals. The ranges of 85mm to 135mm are thought to be the perfect "portrait" lens focal length. These frame a person and give the most pleasing and natural look to them.

Okay, so now that we know what the types of lenses are let's look at what the proper uses of them are and how it looks to use different focal lengths on the same subject. But even though these will be the rules, once again I will encourage you to "break" the rules every once in a while. I have shot portraits with wide angles and landscapes with telephotos, so know the rules and then know when to break them.

The following portrait images are all of the same model with the same composition and scale. Let's look at each one and see the differences and why one may be more appropriate than the other.

In this image (figure 6-1, left) a wide angle 17mm lens was used. Notice that although our model has a nice thin face, the lens distorts it and make it very round and any facial feature that is closer to the camera gets exaggerated like her nose (which in reality is perfect) and her right cheek (on the camera's left) is larger than her left (on camera right). Also take note how much of the background is visible and its degree of focus.

Fig 6-1. a portrait taken with a 17mm focal length (left); the same subject using a 34 mm focal length (right).

Now we have moved back twice the distance from our model and have zoomed to 35mm (figure 6-1, right). Notice that her face begins to have a more natural look but still isn't perfect. Take note again of how much of the background is present.

We've moved back once again and have gone to 50mm (figure 6-2, left). 50mm would begin to approach an ideal portrait length especially on 1.6× crop cameras where it would equal about 80mm. But in this case we are using a full frame camera so it is still not perfect.

Now we have moved back about twice the distance again and are at approximately 100mm (figure 6-2, right). This would be considered a very good portrait lens focal length. Make note of the shape of her face and proportion, but take note of something

Fig 6-2. the same model photographed at 50mm (left); and at 96mm (right).

that has changed even more, the amount of background we see in the image and the apparent focus of the background. Now we are getting somewhere.

At this point we are not going to be seeing any difference in our model. Now the difference will lie in how the degree to which the focus of our background changes, and how the apparent focus changes also. I will talk about the meaning of “apparent focus” at the end of this comparison.

We are now at 135mm (figure 6-3, left). The length that some believe is the perfect portrait lens length. Again, take note of the background. And finally 200mm, what a lot of outdoor portrait shooters have made their go-to lens (figure 6-3, right).

Fig 6-3. the same model photographed at 135mm (left); and at 200mm (right).

Once again take note of the amount of background and its apparent focus.

So those are the differences in taking the same subject and framing and applying the effects of different lens focal length.

Now you may remember that I said “apparent focus.” You may look at these five images and say that focal length really affected the DOF (depth of field) as we talked about before in the chapter on aperture. But really it’s just an illusion in this case (DOF in all cases was approximately 2′7″).

Since we kept the same framing on our subject and moved back an appropriate distance from the subject as we changed focal lengths, the different lenses actually had no effect because the

change in depth of field that normally happens when we change focal lengths was offset by our moving our position relative to the model.

So why do the images appear different as far as DOF is concerned? It's called *perspective compression*, because we both moved and adjusted the focal length, the background appears closer and we can now see just how out of focus the background really was.

Here are some other typical uses of focal length (figures 6-4 and 6-5). Remember there are no hard and fast rules. Use your photographer's artistic judgment and experiment.

Fig 6-4. a 17mm focal length captures all the distant majesty of this mesa.

Fig 6-5. a lioness with her cubs is safely and clearly photographed with a 200mm telephoto lens (above), 50mm used for a still life of this bowl of lemons (right).

7

If You Can't Find the Light, Create the Light

Now this chapter may not pertain to those of you that shoot landscapes because it's pretty hard to move the sun or even create an artificial one but for those of you that shoot portraits or objects this will be of great use to you.

There are times where we cannot be in the right place at the right time or may not be able to find the light we want or need for our photograph. Maybe it is a dark room, or maybe we are shooting in a direction that is necessary because of the background but the light angle is not good for that orientation.

Fig 7-1. this vase was shot with standard flash mode.

This is where a good photographer steps up and creates the light that is needed. This may be through the use of a flash or a reflector.

Now, I don't really want to cover shooting a photograph in a dark room with just the flash on or in the camera, because there isn't much to cover since you can't get too creative with it. In fact you probably will be just fine shooting in auto with the flash on. The images are going to, well, look like it was shot with a flash. There will be a lot of harsh shadows and the light will be flat and uninteresting. But it gets the job done.

What I do want to cover is mixing flash with available light, whether that is indoors or out.

Fill Flash

When flash is not the predominant light source, it is known as *fill flash*. Now the techniques we will discuss next will mostly be that or the flash may be predominant or equal. But we will be mixing light from two sources.

Indoors

When shooting indoors and you have control over the lighting, try to turn the interior lights up as much as possible. This will make life easier on your camera and you. If you have no control we will make do with what we have. Now this is where we will make creative use of ISO. If we boost our ISO, remembering that it makes the camera more sensitive to light, we will bring in some of the ambient light of the room and then we will highlight our subject with the flash.

ROCK* TECH TERM

E-TTL/I-TTL
These are what Canon and Nikon call their Auto Flash Modes. TTL stands for "through the lens." The flash gets its information through the lens.

Set your ISO from 400 to 800 and experiment from there. Then, set your camera to either shutter priority mode or manual and the shutter speed from 1/60 to 1/125. We do this so that we don't see movement in people that are illuminated by the room light. Then, if you are in shutter priority, the camera will choose an aperture for you. If you are in manual, use your meter to try to get a good meter reading, if you can't get it perfect (too low) that's ok. We are just trying to add the existing to our flash. It does not nor do we want it to overpower the flash.

Fig 7-2. here is the same image as shown in figure 7-1, but shot as fill flash.

With your flash on and in auto mode now take a shot. The flash will determine its own settings and power. See if you have a good blend. If the background is too dark, try moving up to the next level of ISO. Too bright a background? Lower the ISO. Figure 7-2 shows an example of the improvement that can be had.

Now you may ask, "Why can't I use aperture priority mode for this. The truth is you can but it takes a little more work and awareness on your part. With aperture priority remember you set the aperture, the camera chooses the shutter speed. However, because of the low amount of light, the camera may choose too slow a shutter speed and may show some movement either in the subject or camera shake from being handheld.

Also, those of you that don't have the creative modes, try just using the auto flash mode but upping the ISO if that's possible, or if you have a night scene mode, try switching to that and set your flash to on.

Outdoors

This will be similar to the indoors technique in that we are going to use the natural light for the background, and flash light on the subject. The difference here is we are not going to have to rely that

heavily on ISO, because in general, we have plenty of light to work with outdoors. Unfortunately, it may not be where we need it such as in a backlit silhouette type shot.

Fig 7-3. exposure challenges in outdoors situations: the brighter background is accounted for leaving the subject underexposed (left), or the darker is subject is properly exposed but washes out the background (right).

We get a silhouette if the camera adjusts for the bright light of the background which doesn't fall on our subject, so your image will look like this (figure 7-3, left). Good exposure on the background but totally dark and no detail on our subject.

If we instead adjust our camera so that we have good exposure on our subject, look what happens to our background (figure 7-3, right). It gets totally blown out and we can see it even wraps around our subject and we lose contrast on her.

But if we use "fill flash," allowing our camera to expose for the background correctly and our flash to expose our subject correctly, we get this (figure 7-4). Much better!

Fig 7-4. fill flash allows us to properly expose the brighter background without losing the details of the darker subject.

Okay, quick test for you all. What is wrong with this image that we learned about in a previous chapter? Right, horizon line going through her head! Even "I" can concentrate on one part of it all and forget another important rule.

Now for outdoors shots we need to be aware of something else called the max sync speed of your camera. What is this? The *max sync speed* is the maximum shutter speed in which a flash will sync with a camera. Any faster and you will see black bands in your image. Usually in most cameras the max sync speed is 1/200 or 1/250th of a second. Check your owner's manual to find out what it is on your particular brand and model.

Now the good news is the camera manufacturers have put a safety measure in to prevent this from happening. If you have your flash mounted on the camera or are using the internal flash, the camera will override any setting you use and set it at the max sync speed if you have gone over that speed, which is great. However, as we will learn in a few minutes, if you take a meter reading with the flash turned off by accident, it will no longer override that setting (on meter reading) and this may result in an over-exposed background.

Okay, so back to the shoot. Set your ISO low, 100 or 200 (maybe higher if shooting close to or after the setting of the sun and not facing the sun). In either manual or shutter priority (**TV/S**) set your shutter speed to the max sync speed. For this segment let's use 1/200th. In manual mode now adjust your aperture for a good expose for **the background** — don't worry about your subject. If you are using shutter priority, the camera will pick an appropriate aperture for you.

Now it is important that you and the camera get the background exposed right, because it is going to be up to the flash and its auto mode to get the subject exposure right.

Compose your image and take the shot.

Note for point-and-shoot users: Because the sun may be so bright and the flash on your point-and-shoot is small and low powered, you may need to get closer to your subjects and use a wider angle lens than you may desire in order for the flash to have enough power to reach your subject. Photography is a lot of compromises and this is one of them

Reflectors

Another way to bring light into an image is to use a reflector. Reflectors for photography are light colored (usually white or silver) reflective fabrics wrapped around a hula hoop-type ring. The ones made specifically for photography are fairly inexpensive as far as photographic accessories go. But you can make some homemade ones for next to nothing or use something you already have in your car.

Go to your local art store and get a large piece of white foam core board. This works as a great reflector for only a few dollars. Or, if you drive a car, how about those silver sided heat reflectors you

Fig 7-5. commercial reflectors.

put in your windshield to keep the car cooler when parked in the summer? Those too can make great reflectors in a pinch and for no extra money spent.

Reflectors work best when your subject is at a 90 degrees or so angle to the sun, then you can position the reflector at an angle to the sun and reflect that towards your subject (figure 7-6). You can also do this when your subject is backlit although sometimes the reflected light can be blinding so make sure you don't make your subject squint with all that light. Try to feather it a little towards them.

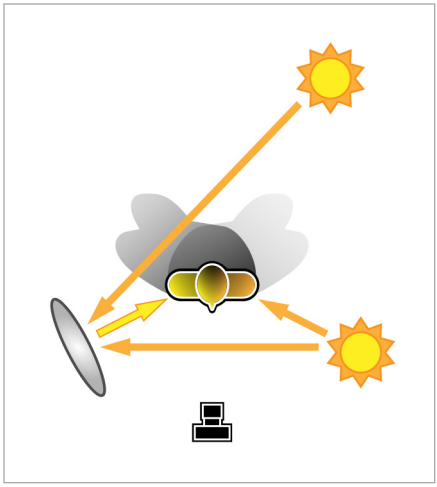

Fig 7-6. Positioning a reflector for optimal lighting. Orange arrows show direct light; the yellow arrow shows reflected light.

Shooting with a reflector is easier than a flash because

Fig 7-7. use of a reflector helps get the available light right where we need it.

you can meter this light and see what you are going to get before you shoot. But you don't always have the ultimate control over everything because you are still using all the natural light that is there.

As you can see with this image using a reflector (figure 7-8), the sun is illuminating her hair from camera right (photographers may call this hair lighting or backlighting) and the reflected light from the reflector is illuminating her face (from camera left) and

Fig 7-8. the sun comes from the right, the reflector adds light from the left.

eliminating any darkness or shadow that would occur if just left to the existing light.

I just want to take one second to go back to something while we have our great model Noelle here as our subject. We just covered "creating the light," so I will take a second and go back to "finding the light." This image (figure 7-9) was shot a half hour before sunset, all natural light — Light… found.

Fig 7-9. The right light makes a perfect photograph.

8

Finishing Your Image in Editing Software

In today's digital world people don't always print their photos anymore (in the next chapter I will tell you how and **why** you should). We share photos in email, on the web, in video slide shows, digital frames, phone apps and yes, still some in print. But because of all the digital mediums we no longer think of the process of shoot, dark room process, develop and print. We may think once we take the photograph, it's done.

Well that really isn't so. There are steps that we can take to "finish" our image in the digital darkroom.

Now just a small caveat here, I am in no way condoning "fixing it later in Photoshop" where we try to make up for obvious and critical errors in shooting our photographs after we are done. I truly believe you should get it right "in the camera,", but you should also know that there is a process later where we can refine our image to bring the most out of it. Even the most famous landscape photographer of the last century, Ansel Adams, believed that shooting and developing were two parts of the art form and both were important.

There are many different kinds of photo editing software available. From free to way so not free.

For free software that is actually fairly capable and easy to learn look into Picasa from Google. It's mostly all automatic and you don't get to modify those choices much but it will do the basic editing and sharpening you need, with some filters for black and white and sepia, plus other colors. It contains an automatic organizer and also web sharing. You can resize for the web or send

to print, either to your printer or you can send them directly to labs from Picasa.

Also free but a little different in approach is the GIMP (GNU Image Manipulation Program). It's more of modifiable editing software leaving a lot of control and power at the end of your mouse. There are plenty of tools, controls and filters available to get just about any look or effect you want in an image.

The next step involves two programs very popular with people new to photo editing. The first is Adobe Photoshop Elements. This program has about 70% of the power of the full version of Photoshop (which we will talk about in a minute) but with a much more user friendly interface for people that either don't have the time to learn the program's intricacies or who in the end may not even need the power of the high-end program.

Then there is Corel PaintShop Pro. This is a very powerful program which costs about the same as Adobe Photoshop Elements. It is actually almost as powerful as the full version of Photoshop. However, it has a bit of a learning curve, and those who end up buying it don't always have the technical skills to make the best use of it. Plus, there is not as much support for it on the web. So a lot of its power often goes unused, which is a shame.

Now, the two biggest players in this game are Adobe Photoshop and Adobe Photoshop Lightroom.

Adobe Photoshop Lightroom is most powerful as an organizer and keyword tagger. It is also a very powerful RAW editor (yes, it can also edit JPEGs and TIFFs) and has many useful finishing

ROCK* TECH TERM

keyword tags
These are words that can be embedded in your images to describe them, such as: Beach, Sunset, Wedding. These images can then be searched for by these tags, instead of having to examine them each visually.

tools for print and web posting. If you shoot many images a day (500+) and need to organize and batch process them, this may be the way to go.

The granddaddy of all photo editing programs is Adobe Photoshop. It can do many of the organizing that Lightroom can do through the use of Adobe Bridge (the two work differently but in the end accomplish similar goals) but its forté is photo editing and manipulation. It gives the user control over every aspect of the image, as well as allowing the integration of graphic elements. It's a very powerful program with a huge learning curve. Fortunately, it is very widely used and supported with plenty of books and online support and lessons. There are tons of add-ons for it by way of "plug-ins" and "actions" so that eases the learning curve a little.

ROCK* TECH TERM

RAW
An image format that contains the basic information captured by the camera's sensor. Also known as a kind of "digital negative" this data needs to be processed before it can be made into a final photograph.

But the truth of it all in the context of this book is that any or all of these photo editing programs will be able to do the things necessary to finish your image. The possibilities are endless when it comes to what you can do with a photograph. It is just up to your talent, imagination and time. But for what we want, which is make your photo into a finished image, any of these will do.

So now that we've talked about the programs necessary let's talk about a few simple techniques you can use to turn your image from a great shot out of the camera to the finished look of a photograph.

Finishing your Photographs

Hopefully if you followed all the rules of this book you are going to have a great looking image already straight out of the camera. The composition and light should be good and you should have a well exposed picture which is neither too light nor too dark and a great starting point. We should always strive for this and **not** try to count on fixing it later. So starting off with a great photograph, here are a few things we can do to make that image look its best.

ROCK* TECH TERM

SOOC
Straight Out Of the Camera — a lot of photographers use this term to say that no post processing has been done to the image.

Contrast and Color Corrections

The first basic correction we can make is to adjust the color and contrast in the photo. These will help liven up the colors and get them to display their true vibrancy. The contrast should be adjusted so that we have the full range of light and dark that should be in the photo. This will prevent photos from having that washed out look even after our best attempts to capture it with good exposure.

All of the programs usually have an “auto contrast” button or menu item which most times works great. Just watch for certain conditions that may change a photo for the worse not better. If you shoot early or late in the day when that “golden” light is present, the auto settings may “correct” for that golden light and turn the image too blue. If that happens you may need to use some of the finer manual adjustments if your program has them.

ROCK* TECH TERM

contrast
The difference between the lightest and darkest parts of a photo.

Levels

One of the most common manual controls available in most programs is called “levels.”

Levels — think of it as a tone control on your radio. It is able to adjust the dark, midtone and light colors in your image. If we look at a typical levels control panel (this one is from Photoshop) we see at the top of it is a histogram. A *histogram* shows all the tones (from dark to light) that are in an image and the amount of those tones present by the height of the graph at each point along the gradient. If you look at this one you will see some blank spots at each end of the graph. Below the graph are three controls that adjust the three different amounts of each band: shadow, midtone and highlight (figure 8-1).

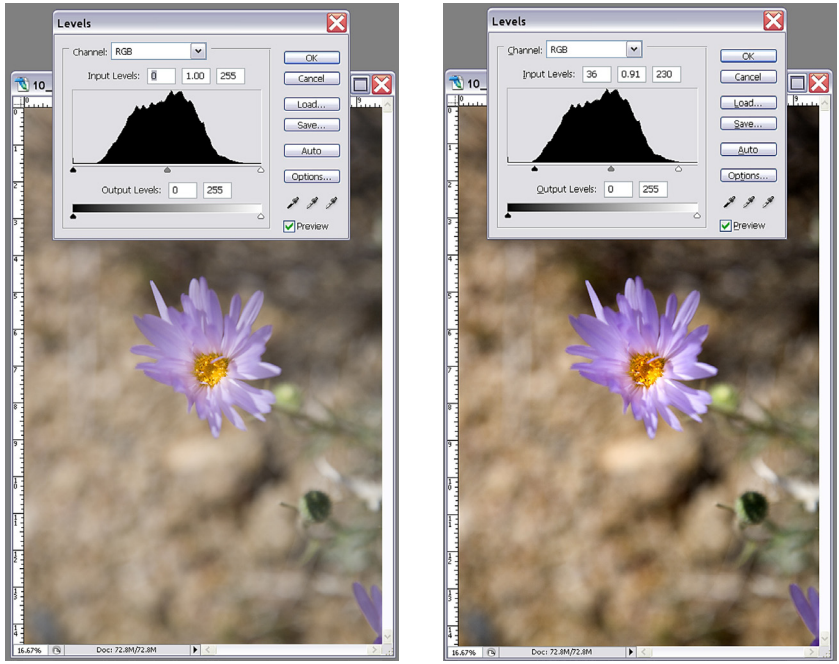

Fig 8-1. the Photoshop Levels dialog showing a combined RGB histogram: before adjustment (left) and after (right).

If we bring the two end sliders in to where the information of the photo starts, and adjust the midtone slider for the best look of those tones, this increases the contrast of the shot (figure 8-1, right). This “de-fogs” the image, as the pros call it, and even adds some sharpness to it.

Hue and Saturation

The next thing we can work on is the saturation of the color, it may be fine but we may want to make the colors a little more brilliant. For this we would use the hue and saturation controls (figure 8-2).

Bring them up just till you see the right amount of color. Don’t go too far because it is easy to push the colors to unnatural levels. If the hue of the color is off from what you remember seeing this may also be a good time to touch this up with the hue control.

I hope you can see why this is best to do after the levels adjustment, since levels alone in itself increases the color of an image, if we did saturation first and then levels, the color may be boosted much too much.

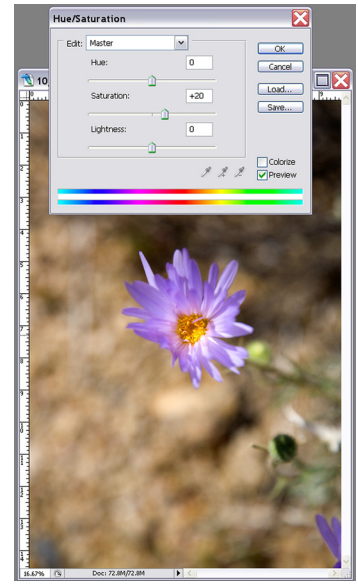

Fig 8-2. the Hue/Saturation dialog.

Sharpening

Most images can benefit from a little sharpening, especially if we have resized the images to fit on a web page, but also when we send something to print. Sharpening increases the contrast of edges and makes them stand out more in the image. Just enough

is enough as it is very easy to over-sharpen an image leaving it jagged and pixelated.

The most common tool, or I should say “filter,” we use for this is called unsharp mask.

There is no set formula for how to set unsharp mask. It can vary for every image and will also vary depending on image size. So this is just something you will have to experiment with. The settings I have for this are a good starting point for a full size image.

Note: Because of the publishing limitations of this book, you may not be able to pick up the subtle difference in the sharpness of this image.

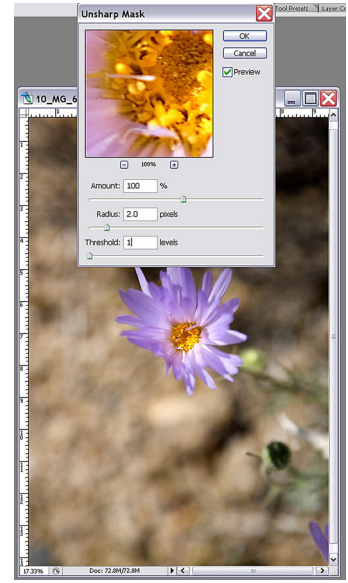

Fig 8-3. the Unsharp Mask dialog.

Cropping

The last thing we may want to do is to crop our image. Maybe we didn’t get the placement right when we shot it or we may see a way to improve the balance or the composition of the shot later on.

In this image I have the flower too centered in the image (figure 8-4). It would be better if I used our “rule of thirds” and offset the image more.

So using the crop tool, I will keep the original size and shape but just crop to a smaller area of the image.

Now this is just a small part of what is possible for post processing, but they are the little things that you can use to take something from being a good original and add just enough “pop” to bring out the best in your image. How far you take it is up to your artistic eye and spirit.

Fig 8-4. the image cropped.

9

Sharing Your Images

Well, now that you've taken these amazing "photographs," what are you going to do with them? Leave them in your computer and never share the beauty with others? Nope, won't let you. Now we will learn about the best ways you can share these images with friends, family and even people all across the globe.

Printing

Printing sometimes seems like it is becoming a lost art, since people have found many more ways to share images than in days gone by. I really will try to encourage you to print your images. Honestly, for me there is nothing like it and I have used all the modern outlets for people seeing my images. But there is nothing like holding that print in your hand or better yet, framing it and putting it up on your wall. I have images up to 40"×30" on my walls and I think they are stunning. (I will have a 40"×60" on my living room wall soon).

Print at Home

Most people have a printer for their home computer and many are capable of printing lab quality prints. It's fairly easy to do (though an art to perfect) and it just takes a few simple things. First, an inkjet printer that is photo capable. Most of these are really inexpensive these days. In fact, the ink sets can cost more than the printers themselves!

You will also need some good quality photo paper. To keep it simple you are usually best off using paper from the same brand as your printer. Different printers use different types of ink so putting your printer's ink on unexpected paper will yield poor results with default settings. If you stick with the brand paper from

your printer, that paper is optimized for that ink. There are also many third party papers that are fantastic, but getting them to work right requires some calibration, and that's for another book. We want to keep it simple for now.

ROCK* TECH TERM

aspect ratio
The ratio of height to width of an image.

Paper comes in many different sizes, 4″×6″, 5″×7″, 8″×10″, 8.5″×11″ and other sizes in other parts of the world. A problem you will run into is that the size of an image doesn't always match paper sizes. The proportions of a photo from a DSLR is equivalent to that of a 4″×6″ print. If we wanted to enlarge that picture, keeping the aspect ratio the same, it would make an 8″×12″ print. But wait! The standard paper size is only 8″×10″. This will mean that you have to "crop" or take away part of your image to fit it on some standard papers. If you intend to make prints afterwards, keep this in mind when you shoot and shoot a little wider than normal. Then if you have to take away two inches in a print, you do not cut off something important to the photograph.

You can use the cropping tools in your photo editing software. **Just make sure you save the cropped image as a copy in case you need to go back to the original for a different crop or to print an uncropped photo.** Or you can do the cropping in the printer's software and leave the original file alone.

So once you have your photo ready and your size selected, load you paper into the printer and then in your photo editing software select "Print." This will bring up a dialog box in which you need to make some selections (figure 9-1).

First thing is to select is your paper size and then the orientation. The orientation is whether you have an image that is wider than high, (landscape), or higher than wide (portrait). Once you have selected that, you now should tell the printer the paper type. Is

your paper glossy or matte or some other type. Letting your printer know the correct paper type will help it lay the ink down correctly for that paper.

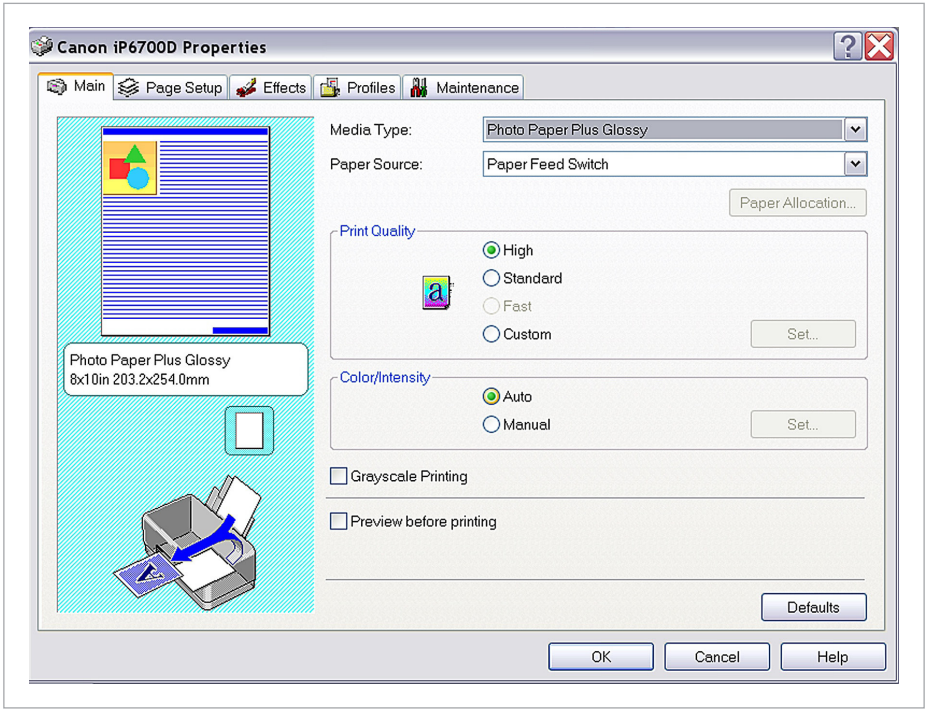

Fig 9-1. a typical print dialog.

Now, you should tell it the print quality you want. For photo prints we want to select the highest print quality available. For color control we will choose auto. As you get more proficient you may vary some of these controls, but for this book and for those of you just starting out, auto does a very good job of getting the colors right.

The one last thing you may want to select is whether your print will print all the way to the edge (borderless), or if you want a white border around the print.

Once you are done with all your selections press print and in a few minutes you will have your print. Allow it to dry before handling it and then display it for all the world to see.

Printing at a Print Lab

Print labs can be many things, it may be at your local department store or pharmacy or some of the popular chain print labs. But honestly, I would leave those types to the snapshot shooter, which by now you no longer are. I would ask you to seek out the professional print labs.

Now these may be in your local camera store or standalone stores and there is even a wider choice on the internet. I use two great labs on the internet and they have incredible products, the prints are fantastic and for a reasonable price. Professional labs offer many types of paper from gloss to matte and even metallic papers. They may offer special papers just for black and white prints. Then besides the papers there are a myriad of mounting choices from plain mat board to styrene and foam. You can even have your photos printed on canvas or actual sheets of aluminum metal!

Most of these labs also offer many different ways to show off your photos from a press printed book of all your photos from a specific event or trip, to cards, key chains, license plates, mugs, mouse pads, almost anything you can think of.

Now, you do need to know a few things to prepare your photo files for print at these labs to get the best quality from them.

Resolution

Most labs have a recommended resolution and a minimum resolution in order to make a print clear and sharp at the size print you have requested. Usually the recommended resolution is 240 to

300 PPI, which stands for pixels per inch. In addition, most require a minimum resolution of 100 PPI. So how do I know if my digital photo has that resolution? Well, it's going to take a little math on your part.

If you look at your file information you will see a pixel by pixel dimension for your photo. It will look something like this: 4368 × 2912. That is how many pixels (the little points of light and color that make up digital images) are across the width and height of your photo. So take that number and divide it by the size of the print you want to have printed. For example, suppose you want to make a 24″×16″ wall print. We would divide 4368 by 24″ and we would get 182 PPI (pixels per inch).

Now if we went to our lab's file preparation FAQs we would find that they require a minimum of 100 PPI and have a recommended resolution of 240 PPI. We now know that we have enough resolution to make the print size we need. If we tried to print too large and our math told us we only have 82 PPI, then the lab would not be able to print our photo that large and we would have to pick a smaller size print.

Color Space

Images from digital cameras have a "color space." This is a set of parameters that manufacturers have come up with so that two different devices, say a camera and a printer, can talk to each other and understand what the other means relative to color in an image. Digital photos are stored with numbers representing the colors, but what color these raw numbers signify will vary from device to device. A computer monitor can display many more shades of colors than an inkjet printer can. Knowing the color space means knowing how the image was intended to be displayed on one device, and then a satisfactory conversion can be made to display it as accurately as possible on another.

There are actually many color spaces but the two most used by photographers are **sRGB** and **Adobe RGB**. If you don't see this setting in your camera then it is not changeable. Most likely your image is captured in sRGB. If you can change it in the menu, you will have a choice of the two. For our purposes, it doesn't matter which you choose to shoot in. In the context of printing it does.

ROCK* TECH TERM

RGB
RGB stands for Red, Green, Blue. These are the three colors of pixels that combine to make every color in the image captured by a digital sensor.

Check with the lab you will use and see what their requirements are. Most will tell you what you need to use. In most photo editing software, even if you are one color space, you can convert to the other. If you don't know **what** to do, the safe action is to shoot and stay in sRGB. It's kind of the default color space and even for the web and most software it is the default color space. The important thing to do is to remember to set this when you save the image. There is a small checkbox for embedding the color profile within the photograph (figure 9-2). You want to do this so that even if you have the wrong color space the person or machine on the other end will be able to see that and know the "language" your photo is speaking.

Color Correction

Most labs offer color correction, the better ones by skilled technicians, others just by the machine that is used. This adjusts color and contrast in the image without even having fixed the images in photo editing software like we talked about in the last chapter. If you are an advanced shooter with a calibrated monitor you should not have them color correct. If you **don't** have a calibrated monitor, most likely you should choose the color correction option if they offer it.

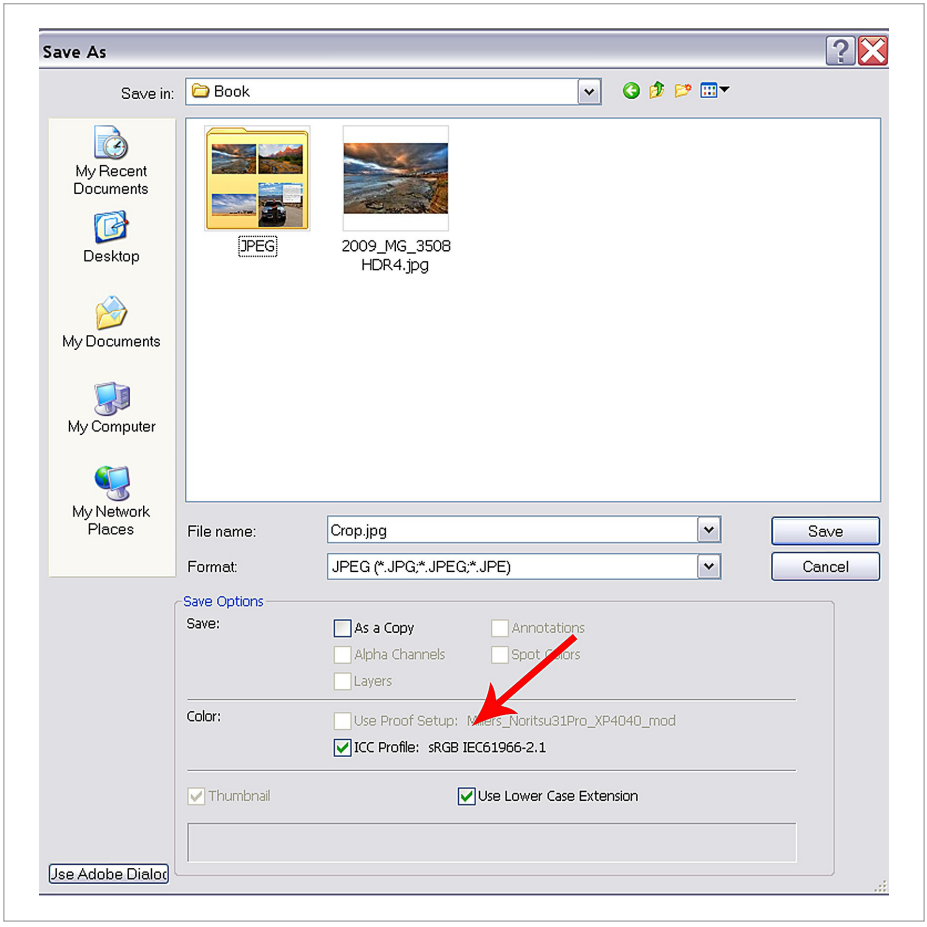

Fig 9-2. The Save As… dialog which allows you to save a new copy of your changes. The arrow indicates the color profile to be embedded in the image. Programs that can read this information will know the rendering intent of the image.

Other helpful things to know are save the photo as a JPEG with quality at level 10. Some labs will also accept TIFF files but not all do. Try not to crop your images repeatedly — the more you crop an image the more pixel information you throw away, and the less sharp they will print at larger sizes. You may even fall below those resolution requirements we talked about earlier. If you are unsure how an image will turn out, try a small sample print on your own

inkjet first before you commit to spending a lot of money on a large print.

All in all I recommend you try having one of your favorite images printed by a professional lab. Why shouldn't **your** art be up on **your** walls?

ROCK* TECH TERM

calibrated monitor
A computer monitor calibrated to a set standard using an external hardware sensor working with software to adjust the display to accurately show true colors.

Digital Frames

Before I move on I should talk briefly about a slightly different way to "print" your images, or I should really say "display" your images. Digital frames have become very popular lately. They are 7″ to 10″ LCD screens that have a built-in card reader. You just pop in a card with the image files you want to display and it will either show just one image in the frame or a slideshow of your favorites.

Sharing on the Web and E-mail

As much as I have pushed you to print your images, I would be stupid not to recognize the most common way to share your images is on the web or through e-mail or texts. Heck, I do it myself. I have both a website and a blog that are viewed by people from over 100 countries around the globe. How could I do that with the prints on my walls?

Preparing your Images for the Web

Before I talk about the different venues for displaying your images on the web, I think we should talk about how to prepare your files for the web. You can't just leave them as they are for a number of reasons

The two biggest reasons are download time and space allotment. Photo files right out of your camera can be anywhere from 2 MB to 8 MB in size as JPEGs. That large a file can take a lot of time to load on a web page or even send by email, especially if the person on the other end of that download still has a dial-up connection. When you save an image in JPEG format in Photoshop, estimated download times are given in the dialog for different connection speeds (figure 9-3). Even with a super fast connection, if we just tried to display the full resolution file on the web it would be huge! It would be twice the width of most screens and people would have to scroll all around just to see the entire image.

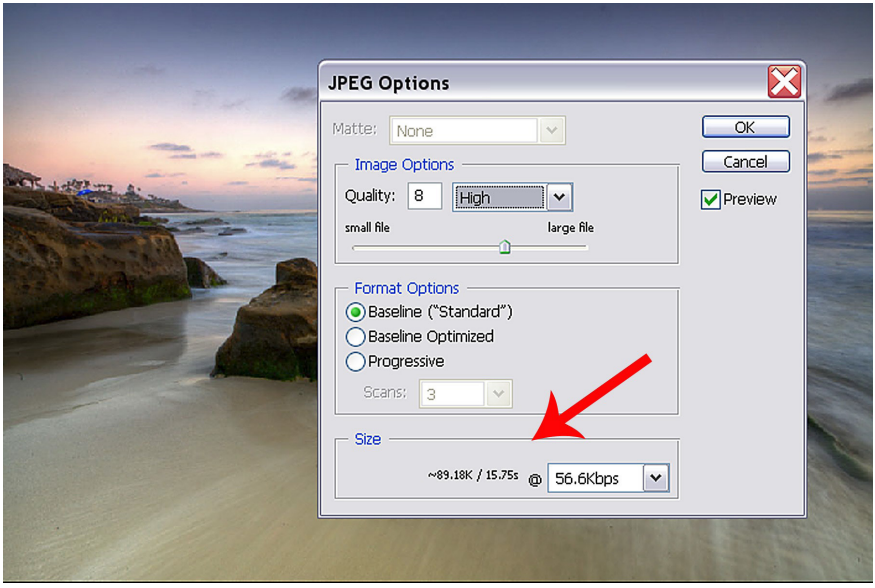

Fig 9-3. the indicated readout estimates how much time it will take an image of this size to download over various connection speeds.

So for those two reasons we need to "re-size" our images and make a copy for the web. Now where you are displaying them may make a difference on what size you need. For most social networking sites and forums the maximum width for your image

should be about 600 pixels wide. If you have a blog you may have a little more room. I customized my blog so that the width of it is 1000 pixels. This enables me to post larger 900 pixel wide images. (Can you tell I like my images **large**? In fact for my website I went with a Flash site so the images are scalable, that is, change size according to screen size, and I can go up to 2000 pixels wide on there for the very largest monitors.)

So check out what the requirements are and then use your favorite photo editing software to resize your image for the web. Now, I cannot stress this enough, **when you resize an image for the web make sure you either rename it or save it as a copy. If you overwrite your JPEG file with the resized one, it is gone forever.**

In our image editing software the dialog box for resizing will look something like figure 9-4. With the box for "Constrain Proportions" and "Resample Image" checked, I put 600 pixels in the width box and the software kept the original proportions and filled in the height box with the appropriate 400 pixels.

Now I left something in here on purpose to make a point. I know someone will look at that dialog box and say "Dude, you messed up. You have 300 PPI for the resolution. Photos for the web are supposed to be 72 PPI." Nope, pure myth. When in digital form on the web, PPI is irrelevant. 600 pixels by 400 pixels is the same whether it is 300 PPI, 72 PPI or 1 PPI. It will all appear the same on the web. PPI (pixels per inch) is only relative to a document or print size.

Now, again save your photo with a new name that helps you remember where it came from and where it's going. If the original photo was named "img_2648.jpg", try "img_2648**web**.jpg" or "img2648**copy**.jpg". Also, save it at a quality that will keep the file size under 100k for easy downloading or display on the web.

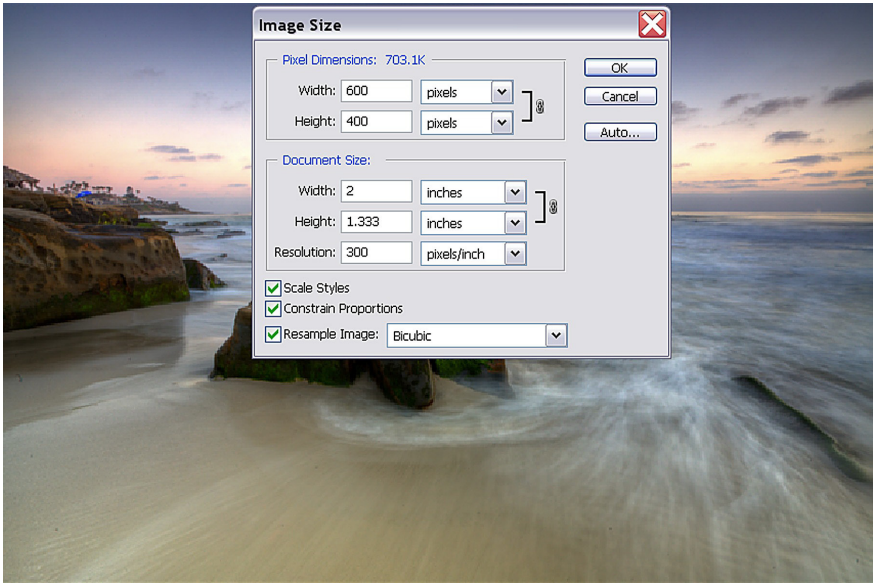

Fig 9-4. the Photoshop Image Size dialog.

If you use Photoshop or Photoshop Elements one of the nice features of those programs is their "Save for Web…" option (sometimes called "Save for Web & Devices…"). This gives you a dialog window where you can downsize the image size and save the image in a size suitable for the web — all on one screen. It will also default to the last folder saved to so you can make a folder called "Web", for instance, and all your re-sized for the web images will go in there lessening the chance of overwriting your original file.

Watermarking

Let me just touch on one subject before we move on. Remember that when you post your images on the web, not only are they there for everyone to see, but they are there for everyone to take as well. Even though technically your images are copyright to you upon creation, that will not stop anyone from taking your image and using it for whatever they please.

Fig 9-5. addition of a copyright statement as a watermark.

So if you are proud of your work, and at least want recognition that it **is** your work, you should watermark every image that appears on the web. There are many ways to do this. Some photo editing software have a watermarking feature or you can just use the text tool to make your own watermark on the image. A watermark can simply be your name, or if you want to be more technically correct: your name, the copyright symbol and the year of publication.

And just one other word: remember, the world wide web is open to everyone so if you don't want a picture of you or your family on the web for **everyone** to see, don't post it there even if you think, oh it's just my blog — only my friends will find it there.

Now let's move on to where to post your images.

Social Networking Sites

How could we not talk about the hottest places for people to post and be on the web? Facebook, MySpace, Bigadda, LiveJournal, Mixi — the list goes on across the globe. People love these sites for finding new friends, reacquainting with old friends or just keeping in touch with family members far away, and what a great place to share your photos with people. Most sites allow you to "tag" your images with names of people in them, or what place they are of so that people can search for images of people or places they want to see.

Blogs

There are a number of free blog sites out there like Blogger, Tumblr or WordPress where you can not only talk about things that interest you, but also show off your best images. You can simply post photos or involve them in a story about a time or place.

Photo Sharing Sites

The most popular of these are Flickr and Photobucket. People who have the same interest as you in photography gather to show off their work. "Groups" or "Pools" allow you to share similar types of images. These sites allow commenting on other's photos, which may help you improve your photography, or you may help someone else improve theirs.

There are even hybrid sites like SmugMug and Zenfolio where you not only show off your photos but your friends can buy prints of the photos. If you upgrade (for a price) to their pro accounts you can even sell a print for profit.

Your Own Personal Website

There are many free website hosting and building sites out there where you can have your own site to customize and show off all your images. For a small investment, you can even get your own domain name and a hosting plan and make it even more customized. There are a number of different website templates available that are geared specifically towards photographers that can allow you to show off your images in a beautiful fashion, adding slideshows and even music for a full multimedia experience.

So however you decide to share your images — print, web, email — just share them. Now that you have learned how to go from snapshots to photographs, why keep them to yourself?

POSTSCRIPT

Postscript

Remember this photograph I showed you at the beginning of the book? It was shot using a point-and-shoot camera. Just remember, "It's not the Hammer."

Note: The images in this book were shot using Canon™ point-and-shoot cameras, Canon consumer DSLRs and Canon professional DSLRs, however Rockable Press and I were not endorsed by, or sponsored by Canon or any other company mentioned in this book.

Tech Term Index

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About the Author

Peter Tellone is a freelance photographer, writer and photography teacher based in Southern California. He specializes in high dynamic range (HDR) imagery and landscape photography. He is a founding member of an exclusive group of photographers known as DB5.

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How to Take Great Photos
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