Product Photography for Artists

A Workshop Guide to Taking Photographs of Your Artwork

James Hutchison

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Image 1: Stephen Haigh
Image 2: Andrew Adach
Image 3: Richard Gill

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*** Please Read This Page Before Starting ***

This guide is written expressly with the artist in mind, although the principles apply to any kind of product photography, whether you're shooting for a hardware catalogue, a cookbook, or your own glass-blown artwork… everything here is relevant. It is also meant for those who want to make their photos really pop, as opposed to using your camera for strict documentation, such as text-book or legal applications.

The materials and equipment you will need for your lighting are minimal and inexpensive; you don't need to break the bank. Because this guide is based on digital photography, you will need a computer, which most of us have, a decent digital camera, and an image processing program called "GIMP", or "**G**NU **I**mage **M**anipulation **P**rogram". The acronym GNU is a little difficult to explain, but it essentially refers to a free licensing model that all GNU software share. So, GIMP is free, easy to use, and does everything needed to make your photos stand out. Most camera manufacturers such as Pentax, Nikon, Olympus, and Canon all bundle their digital cameras with some kind of image processing program, so to specifically cover the intricacies of all programs and versions is beyond the scope of this guide. Hence the decision to use GIMP, for the knockout price and availability.

Please visit **http://gimp-win.sourceforge.net/stable.html** to download the Windows version, or **http://gimp.lisanet.de/Website/Download.html** for the MacOS version. You may also install either version from the included CD-ROM.

GIMP requires a Pentium II, Celeron, Athlon or better CPU. GIMP should run on any NT-based version of Windows (NT4, 2000, XP or Vista), and any Mac running Leopard or Tiger. Older GIMP versions (2.0.x) could also work with older versions of Windows such as Windows 95 but they are not supported anymore. The amount of memory can be an important factor, especially if you intend to work on large images. A minimum of 128 MB of RAM is recommended, but the more RAM the better.

Thanks for purchasing this guide, and like most workshops, my students should know that I am available if you get stuck on anything, or there's something you don't understand. Send me an email with photos of what you're working with, your lighting setup, and I will respond with advice on how to improve your shots.

Happy shooting!

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Introduction

So – you've got a decent digital camera, and you're on a mission… you've been invited to enter your artwork to a Christmas art fair, but it's juried, and they need pictures of your work pronto. You're thinking "How do I go about this? Do I use flash, or should I shoot my work out in the sun? I can't afford to hire a pro…" Well, this guide is for you. It turns out that with a bare minimum of equipment, and a computer with some software on it, you can create beautiful images of your artwork, just like the pros. Some of you may feel intimidated by the thought of using software to tweak your images, but I'll show you in-camera techniques that will help minimize the need for digital manipulation later.

A word about what is called "post production." In the old wet darkroom days, photographers had a bag of tricks they used when printing their images. Developing the film was only the first step. The actual printing of these images from an enlarger involved techniques such as dodging and burning which would lighten and darken only certain portions of the image; the use of filters to enhance skin tones, and afterwards airbrushing to eliminate unwanted things such as lens dust shadows, adding colour to enhance the subject matter, and many other tricks that were used to beautify the original image such as whitening teeth and the whites of the subject's eyes. The point being, that seldom did the original image make it to the magazine, newspaper, or catalogue. The same goes for the digital world. The picture you take of your artwork will need some beautifying to make it pop. Seldom does any camera have the ability to take an astounding photograph, and if it does, some skill with a touch of chance and guesswork were involved. Hence the need for post production.

Certain people argue that we are manipulating reality; that we're not presenting an honest depiction of our subject matter. Well, the necessity for that kind of accurate depiction is really more for journalism and legal documentation. Besides, a photograph *is* an interpretation of what you really saw, due to depth of field, shutter speed, film or digital sensor characteristics… So, if a potter were to try and sell lumps of clay, or a painter just sold canvas and tubes of paint, it wouldn't be long before he or she was looking for another line of work! As an artist, this potter will lovingly create a sculpture that no one else has ever made, and the painter will create a scene that only he or she can, each being a distinctly unique expression of their creativity. Similarly, us photographers understand the importance of presenting the most aesthetically appealing representation of our subject. Photographs straight out of the camera simply do not do a complete job of representing the three dimensional world we live in. Our computers are now the "dry" darkroom. I heard it said that we are not just photographers… we're artists that use a camera.

Part 1 of this guide covers the theory and science of cameras and lenses. Please don't skip this section unless you already have a firm grasp of inter-relationships of shutter speed, f-stop, and ISO. It is vital to understand why certain pictures look great, and others are just ordinary… otherwise, it's all guesswork. Part 2 covers lighting; how to set up a simple and inexpensive small studio on your kitchen table, and how best to shoot large outdoor objects. Part 3 covers the digital editing of photos. You don't need a

degree in computer science to understand the steps I walk you through, so take your time and follow each example as I demonstrate how to create beautiful photographs of your artwork.

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Part 1 – Lights, Camera…

It's All About The Light

Someone said that photography is painting with light. Very true. Getting the right level, colour, angle, and kind of light is the point of the entire exercise. Get it wrong, and no amount of digital manipulation on your computer is going to make it better. You know the adage – you can't make a silk purse from a sow's ear. Not to insult any pig lovers out there, I think you get the point. Nailing the lighting issue right at the get-go will leave less work to do on your computer.

Getting the right level of light is mostly guesswork for anyone who doesn't understand how cameras work in the first place. Modern cameras have a built-in light meter that sends signals to an on-board computer chip, which then takes a best guess at the right exposure. They get it right for the cliché outdoor photographs of landscapes, people, and other common subjects. Well, not always… think of any pictures you have seen of a landscape shot in winter. The snow is always a drab grey – see image 1. Why is this? The answer lies in how these light meters are programmed. They are actually set to properly expose skin, which is about eighteen percent grey.

Image 1. Note the grey color of the snow, and the resulting underexposure of the central subject.

Image 2. Thanks to good image editing software, the exposure can be increased to create a more natural looking image. Note how the individual's face is now more distinguishable. The camera should have been set to overexpose, saving work on the computer later.

So, when you take that shot of your kid tobogganing down a snowy hill, the camera's light meter actually under-exposes the shot, thinking that there's green grass everywhere… which is also about eighteen percent grey. Without getting too technical, just understand that the exposure – or "level" of light landing on your camera's sensor is not always the right amount. Think "volume control" on your stereo. I'll get into that more later.

Getting the right colour of light is important as well, otherwise your photograph with have a certain tint. This *can* be corrected later on your computer, but better to get it right when you click that shutter button. The way to control tint is at the light source itself. If it's direct sunlight, then it will be perfect… a pure white that has no colourings. Indirect sunlight, or "diffused" sunlight may be slightly "cooler", or have a tinge of blue in it. Incandescent lights have a very yellow/orange hue, not conducive to product photography.

Image 3. This photograph of a model home was shot with daylight film, then scanned with no correction. Although aesthetically pleasing because of the warm look (due to the incandescent lighting), it misrepresents the actual colors had pure white light had been used to illuminate the room.

Image 4. Using Photoshop to adjust tint, this image depicts the more natural and realistic color tint that I remember the room looking like.

Getting the right angle of light is critical as well, in particular for three dimensional subjects such as sculpture, jewelry, things of that nature. Light from a high angle will draw out the relief and texture of your subject. So, light directly from your camera's flash would not be a good choice for such instances. Actually, it seldom is. The small pin-point of harsh light it emits is far too weak in most cameras anyways, depending on the distance from your subject.

Related to the right *angle* of light, the right *kind* of light will depend on what you are shooting. By *kind* I'm referring to direct or diffused. We seldom use only direct, whether it's sunlight, or your camera's flash. It's too harsh as mentioned above, so please turn off that flash right now! Determining the kind of light depends on what textures you want to emphasize. If there are no textures at all, such as watercolour paintings, marquetry, sketches, etc., then fully diffused light is the preference, as it will illuminate your subject evenly. Three dimensional objects like sculpture, woodwork, jewelry, mixed

media, and glasswork, need a combination of lightly diffused and reflected light. Shadows play an important role in representing work of this nature, so I will show you how to set up such lighting scenarios.

Image 3. The difference between flash and no flash is apparent: the left hand image is not as interesting as the right image, where no flash was used. The natural looking light and shadows that play around the goblet help it appear more three dimensional. Light sources common to both images are a window to the left, an overhead incandescent track light, and a white reflector to the right to fill in shadows.

You should now have the impression that controlling your light source in every aspect is fundamental in taking great pictures. Let's talk about your camera now.

Camera Settings and Physics

I encourage everyone I teach to go through their camera's manual first, then come to me with questions. The more you know about what your camera can do, the more control you will have. For those totally intimidated by such technology, it sometimes helps to have someone explain it to them in plain English. You don't have to memorize everything… this guide will show you the important things to know, and it's not all that involved.

The first thing to do is take your camera out of program mode ("P" on the dial). All modern cameras have a dial that places the camera in various shooting modes. Program mode leaves all decisions to the camera… you have no control over the outcome. This works for that holiday to Hawaii, but not in the studio. So, put it in "Av" mode, which stands for **A**perture **V**alue. Your camera is still deciding how much light hits the sensor by adjusting the shutter speed, so this is kind of a "semi automatic" mode.

What the heck is aperture priority??? To answer that, first you need to understand the relationships between shutter speed, aperture, and ISO. Don't feel intimidated here… it's just a bit of physics that once you understand, you'll have one of those "ah HA!" moments. Once you get it, you'll want to open a bottle of champagne and celebrate… so, here goes.

It starts with your camera's sensor, which has most of the same characteristics as film, in that it needs a very specific and perfectly-timed short burst of light to be properly exposed. The first thing everyone understands about cameras is shutter speed. The longer the shutter speed, the more light saturating the sensor (or film). The faster the speed, the less light. The optimal shutter speed will of course be determined by the brightness of the light. Outside in direct sunlight, your camera may choose a shutter speed of perhaps one five-hundredth of a second. Inside your home, it would need a far longer exposure to satisfy the sensor's requirement for optimal light, likely somewhere around one-fifteenth or one-thirtieth of a second. And that's too slow for a hand-held shot; it would look blurry because of camera shake.

A little demonstration here: take a look in the mirror – really close. Look at one of your eyes… right in the center. See the black center, the pupil? Notice how it changes size ever so slightly as you stare at it. Now, go outside in the sun with a mirror, and look at your pupil again. Notice how *small* it becomes. Your eye is just like a camera's lens. Cameras have a "pupil" as well. It's controlled by your camera's electronics when it is in "P", or "Program" mode, and this pupil will open or close to just the right size.

Image 6. This camera lens employs a mechanically controlled aperture, where the left image shows the widest setting. The image on the right shows how small the aperture, or "pupil" of the lens can get. The numbers used to express the measured size of the aperture is opposite than what you think: the left photo is f-2.8, and the right is f-22.

So we have shutter speed and aperture, both controlling the amount of light hitting the sensor. They work in harmony together actually… if the aperture opens up wide

letting in more light, then the shutter speed automatically is faster to compensate. If the aperture closes down really small, then the shutter stays open longer to let in more light. Like a see-saw. One goes up, the other goes down. If they don't, the picture will be either under or over-exposed. This is the first important concept to grasp.

As mentioned above, camera sensors are like film. You can change how sensitive it is. In my film days, I would choose a roll of 100 ISO for outdoor and flash, and the more sensitive 800 ISO for indoor when I didn't want to use a flash. The higher the number, the "faster" the film, and the less light needed for proper exposure. An obvious advantage to digital photography is the ability to change the ISO setting from frame to frame. With film, you're stuck with the ISO for the entire roll.

Now, back to aperture priority mode. This mode tells the camera… "Hey you: you're no longer making all the decisions around here. I am going to choose the aperture size, then *you* choose the right shutter speed. You OK with that?" And your camera will answer in the affirmative, simply because that's how these things were programmed in the factory.

The reason we want manual control of the aperture is two-fold. One: the numerical range used to describe the aperture settings is somewhere between f-2.8 to f-32, called the "f-stop" range. Not all cameras have that wide a range... yours might be from f-4 to f-16. Where you choose to set that number will determine the depth of field. The larger the number, then everything is in focus. Things close and things far. The smaller the number, then things only close to the focus point are – well – in focus. We call that selective focus.

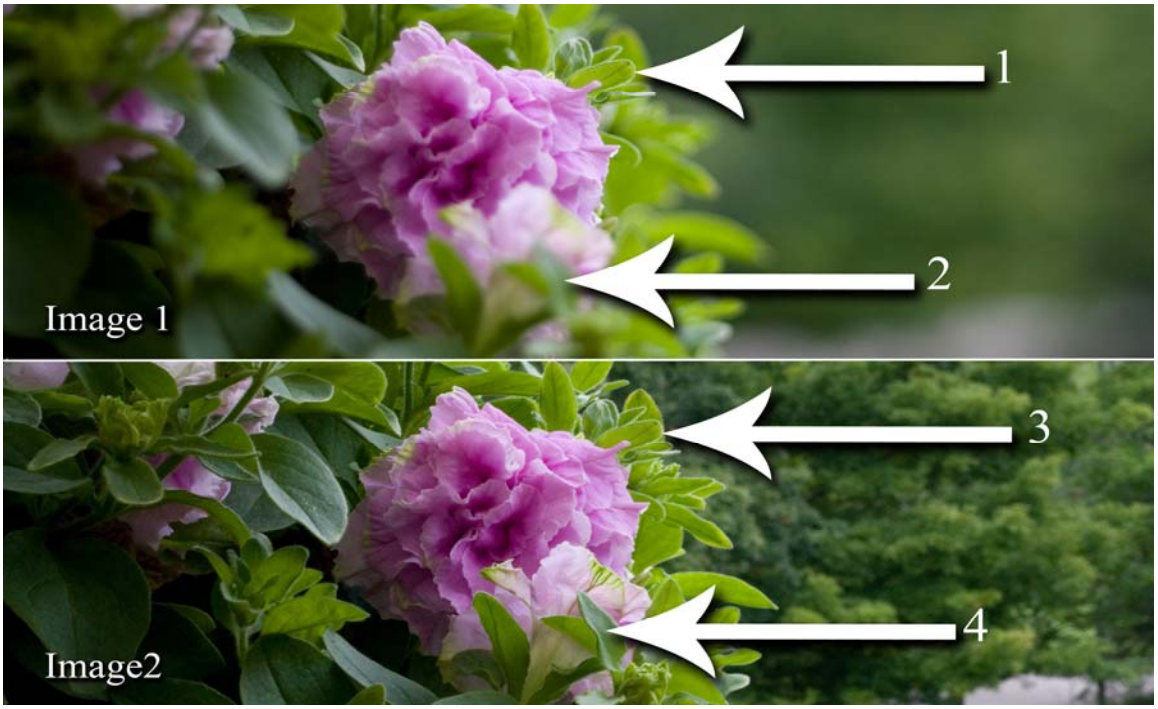

Image 7. Arrow #1 & 3 are pointing to the same leaf, and both are in focus… this is known as the "center of focus", no matter what f-stop number you set. Arrows #2 & 4 however show the difference between

shallow and deep depth-of-field. Image #1 was taken at f-1.6 (a very wide open aperture), while image #2 was taken at f-22. Also note how the background to the right changes with each setting.

In just about all cameras, the optimal sharpest image is found around f-8, which is in the middle of the f-stop range. The reason for this has to do with the physics of lenses. This is the second reason for choosing aperture priority… image sharpness. We want to take the absolute sharpest image possible, and f-8 will give that to you. The only reason we would want to veer away from f-8 would be to throw the foreground and background out of focus (as in the first image in the two examples above) for something like a large outdoor sculpture. We're talking aesthetics here, so the choice to do that is up to the artist.

The sharper ones in the crowd will be asking about the third variable… "What ISO setting should I choose?" Remember, ISO is the sensitivity of the sensor, just like film. It so happens that the lower the number, the higher quality image you'll get. End of discussion. Do not use a high ISO, as this will introduce digital noise, which is just like film large grain found in 800 ISO and higher. The lowest setting in today's digital camera is usually around 80 or 100.

A Few More Equipment Considerations

Enough science and math. If you didn't get this after just one read, take heart… the concepts are foreign, and linking these three variables together in your noggin may take some head scratching. Don't feel bad – it took me a while playing with all three before it became instinct.

Before we yell "lights – camera – action!", there's a few more pieces of information you should know about your camera setup.

Firstly, you need a tripod. Not a cheap twenty dollar one, but something that is steady. Don't pay less than a hundred dollars… or eighty if it's on sale… even with image stabilization all the rage now, your camera needs to be rock solid steady. If not, your images won't be as sharp as they can be. On that note, take your camera out of image stabilization mode. It could actually blur your image if the exposure is long due to low light.

The other thing to set on your camera is the timer. You see, as you squeeze the shutter button, you're moving the camera, which causes image blur. By setting the timer on, the camera stops moving before the shutter fires. Simple, but very effective. If your camera happens to have a remote, then use that instead to fire the shutter.

Then there's something called "white balance", touched on earlier. A wonderful thing digital cameras can do is compensate for an off-white light source, simply called "auto white balance". It's not perfect, but in a pinch, it helps out quite a bit. My advice of course it to work with the most neutral white light you can, but if you're in a situation where there is nothing but florescent lights everywhere, the white balance can be set to compensate for that. Otherwise, set it manually to sunlight.

On to autofocus: generally, autofocus works great for getting the sharpest image, but if your artwork is three-dimensional and parts of it turn out blurry, move the camera back from your piece and zoom in. This is where a higher f-stop will help as well, by expanding the depth of focus.

All these setting can be found in your user's manual. If you don't have one, the manufacturer likely has a downloadable version on their website. So to recap camera settings…

- ☐ The mode dial should be at "Av", or **A**perture **V**alue.
- ☐ The f-stop should be at f-8.
- ☐ The ISO should be set to the lowest number.
- ☐ Set the timer on, or use the remote if you have one.
- ☐ Set the white balance to suit the light source, preferably "sunlight" based on the fact you're using a good light source.
- ☐ Let autofocus do it's thing.
- ☐ Take it out of image stabilization mode if your camera is IS-enabled.
- ☐ Use a tripod.

So you now have your camera mastered. Your artwork is sitting there waiting to be photographed, so let's move on to lighting…

End of Part 1

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Part 2 – Your Lighting Setup

Just a Few Rules, and You're Off…

As mentioned earlier, this part is inexpensive, but also the most misunderstood. Let's go over some basic principles:

- In general, the most flattering light is diffused light. Direct light is too harsh, creating high-contrast highlights and shadows.
- Lighting does not have to be blindingly bright. Your camera's "brain" will simply cause it to take a longer exposure.
- Lighting angle is critical especially for objects with texture and depth.
- Distance between light and object is an important variable.
- Lighting tint should be as close to sunlight as possible.

So, how do we control all of this? First off, we eliminate all extraneous light – including the sun if possible. Why? Because if we're shooting indoors, sunlight will bounce off non-white objects in the room and colour the photograph. This causes more work later on the computer, which we're trying to avoid. Close the drapes and turn off all lights. Incandescent lends a yellow/orange tinge, and florescent sends off a green-tinged light. We want our lighting setup to be very purposeful and contained. A little light bleeding in from another room probably won't pollute your setup with non-white light, but it's better to be sure and turn them all off.

For most lighting setups, one primary light source, and one reflective surface is adequate. Those yellow work lights you see at nighttime crime scenes on television work quite well, as they are very close to pure white light. Whether you get the tall stand or not is up to you, depending on the size of your work. My photos depict one without, as the examples I demonstrate are for smaller objects.

To diffuse this harsh light, tape two layers of white gift wrapping tissue paper over a stiff cardboard frame, and affix a folding stand to the bottom. If you require a much larger diffusion surface area because of the size of your work, then consider bouncing the light off a large white surface. Sometimes even pointing the light up to your white ceiling provides just the right amount. If you want more angular control of your light source, then you may need two, or possibly three lights behind a large sheet of tissue paper. How you rig it up is unimportant; just make it movable so you can play with distances between the light and the tissue paper, and the tissue paper and your subject.

The reflector I mentioned is to provide a secondary, less strong light source. This will fill in any shadows that may be too distracting. The following example is a setup that cost the owner next to nothing, yet has provided stellar results.

Lighting Example #1

Here are three photographs of a very simple setup…

Image 8: With the diffuser on the right, reflector on the left, and a curved background made from a sheet of beige matting board, this is all you need to photograph great studio quality images of your artwork.

Image 9: Same setup as the previous shot. Here you can see the work light on its stand on top of a small box to give it elevation. I chose this particular distance from the tissue paper diffuser moving it back and forth while viewing the subject.

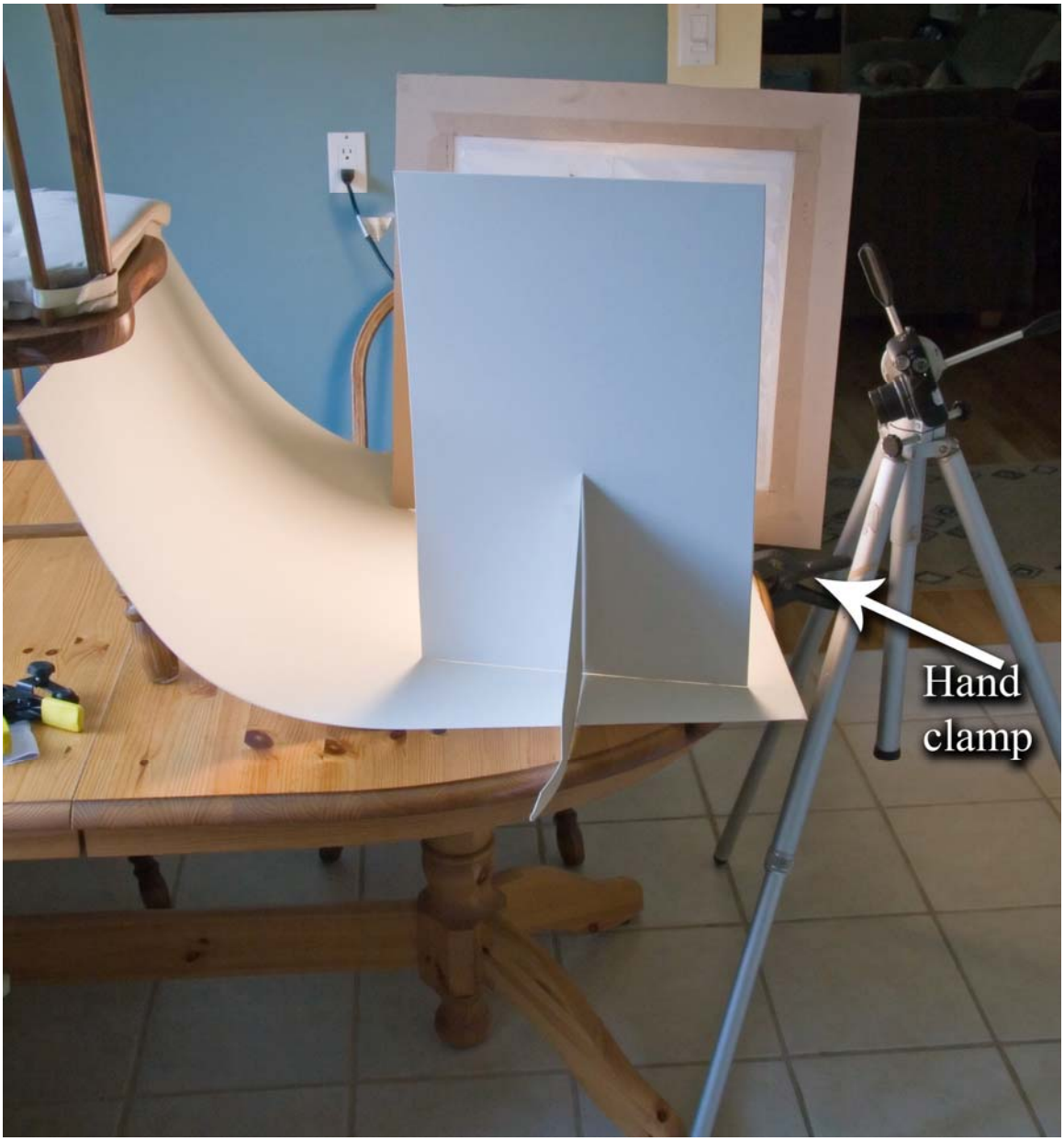

Image 10: Here you can see how the use of a simple carpenter's clamp holds the end of the matting board, while a chair holds the other end elevated, providing a seamless background.

The final image:

Image 11: The final image is ready for printing and the web presentation! Shot with a Canon 8 megapixel SX-100.

One more important thing to talk about is the surface your object sits on. Place your subject on a clean, monotone surface, such as black velvet, or a large coloured sheet of flexible board. I personally use matting board (as above) in different colours. White works well also; pick a colour that doesn't conflict or distract from your artwork. If you are shooting something two-dimensional such as a painting, compose the image such that it fills as much of the frame as possible, so backgrounds mean less here, as you will be cropping out the picture frame.

Depending on the overall tone of your photograph, it may end up over or under exposed. That is because the object and background is either quite light overall, or quite dark colour-wise. Keep in mind that your camera is still making the decision on how much light hits the sensor by controlling shutter speed. After uploading your photos to your PC or Mac, determine if they are too light or too dark. Then, re-shoot and dial in an exposure compensation. This will be in your user's manual. If it is over exposed, then dial the exposure back by a factor of -1 to -2. If under-exposed, then dial in an exposure of +1 to +2. You may say "…but I can adjust that on my computer." Yes you can, but you will loose important details in either the highlights or the shadows.

Lighting Example #2

Image 12: It looks cluttered, but in this product photo setup, two lights with diffusing tissue paper illuminate from the left, a reflective diffuser on the right fills in shadows, and two more lights on the right bounce light off the ceiling. The background is a matte black piece of foam core.

The owner is a German inventor who manufactures tuning machines for classical and steel-stringed instruments. He keeps this setup permanent, as he does custom

engraving work and keeps adding more examples of his product to his web site. Without the foam core reflector on the right; the plate and gears looked black and uninteresting.

It is important to realize that the image that comes out of your camera is nowhere close to being as good as it can be. I will go through the digital manipulation steps further in the guide after three more lighting examples.

The final image:

Image 13. The white foam core reflector on the right filled in a beautiful soft light that emphasizes the engraving.

Lighting Example #3

Marquetry is an ancient woodworking art that involves very precise cutting, shaping, and matching of various colours of thin veneer. One can make three dimensional objects with pieces of marquetry as decorative highlights, but the work itself is essentially two dimensional. Therefore, lighting this artwork requires a different approach than the two examples above. We're essentially looking to bask the artwork in even, diffused light, as shown in the following photograph which was photographed outdoors on a cloudy day.

Image 14: Flat, 2 dimensional images only require off-axis diffused light, such as an outdoor location on a cloudy day. Photo credit: Stephen Haigh.

Indoor Sunlight

There are instances where the sunlight entering a room does actually provide all the right kinds of light. First, it is diffused. Second, the halls and ceilings in the room are white, so as not to colour or tint the light. And, it is consistent enough to provide great results time after time, so long as the sun isn't behind a cloud! This will of course happen, so therefore if your photos can wait for a sunny day, then save yourself some trouble (and a few bucks), and go with the sunlight option. The following photo was taken in such an environment.

Image 15: I left this image uncropped to show the light source on the right, which is diffused sunlight.

Outdoor Sunlight: Shade or Overcast

The same applies to outdoor sunlight. If it is diffused (i.e. you're in the shade, or it is overcast), and it isn't too polluted with strong colours as a result of reflections, then this is a very workable solution. Shade lighting is sometimes a little on the blue side due to the sky, so be aware that your colour balance may require a little tweaking because of it.

When shooting something flat, or close to flat, then align the camera lens so it is at the center of the object, at a ninety degree angle. If you're at too much of an angle, the photo will have what is called perspective distortion. We want our artwork to represented as accurately as possible.

The following photo is of a clay relief sculpture that was photographed on the shady side of a building during an overcast day.

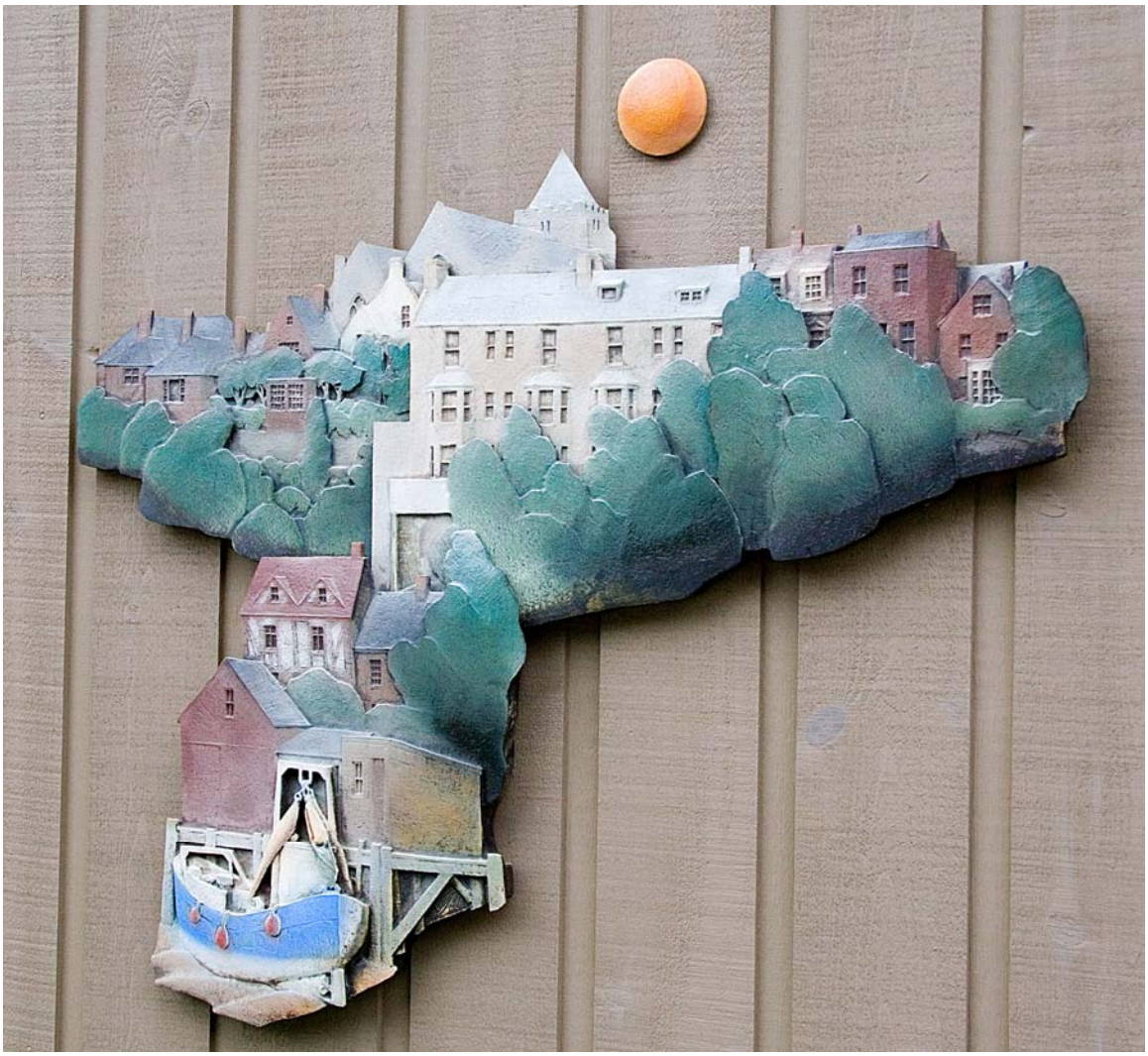

Image 16: This art piece by clay relief sculptor Richard Gill was shot outside during overcast conditions. Note the shadows below and the highlights at the tops of the shrubs and trees.

End of Part 2

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Part 3 – Adjusting Your Digital Images

From Your Camera to Your Computer

If you couldn't resist saying *"Lights – Camera – Action!"* during your photo session, then know that the action portion continues on right through to your computer. If this section seems daunting to you, then please take your time and re-read anything you're not sure about. The steps I am about to describe are easy to perform, but not all will be necessary. I will describe them as "nice-to-know", or "need to do". That way you're not trying to memorize useless information. I do caution you though, that if you are a total beginner with photo manipulation software, these steps may look more complex than they are. If you're such a person, may I strongly recommend you perform an internet search for tutorials. I still do this to this day for certain effects I am trying to accomplish. A search such as "gimp tutorial" will return a vast number of websites that provide free lessons.

I have mentioned earlier that I will be using GIMP in the following examples. The most popular program is Adobe Photoshop®, which many people find cost-prohibitive. Adobe also sells something called Elements® for around a hundred dollars, and it does everything you'll need as well. If you prefer to use software other than GIMP, you will have to hunt around to find the equivalent commands, but they are there.

Some of the following material first appeared as an instructive article on my web site at http://www.jamesphotography.ca/post_prod_with_photoshop.html.

Isn't this Cheating?

You may ask "...but your manipulating the image; changing it from it's original in-camera state". I bring this up again, because there has been much ink spilled on this subject. The fact is, both film and digital cameras do not capture what the eye sees and remembers. Film, CCDs, and CMOS chips have a narrow dynamic range, and may introduce some kind of color shift if you only shoot JPEGs as opposed to shooting in RAW format. So to make the final image look like the original subject, adjustments are required to highlight and shadow strength, possibly color cast, and sharpening. It's up to you how much correction you apply.

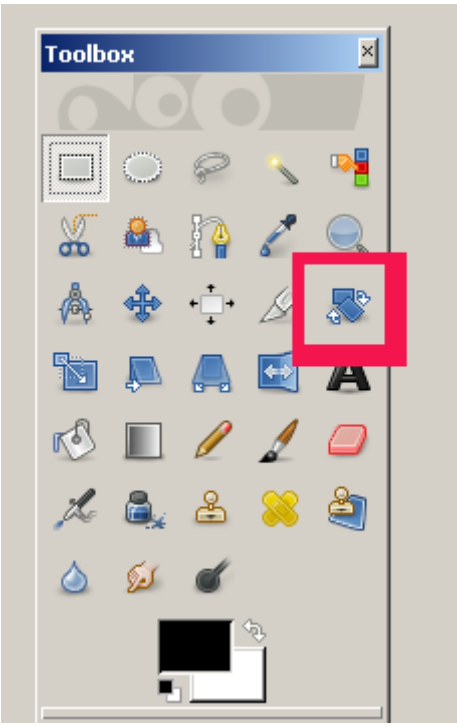
The digital image you want to improve must be of good enough quality to begin with, otherwise you'll just waste your time. For the most part, your original image (from a film scanner or a CCD or CMOS chip) must have highlight and shadow detail; no blown-out whites, and be nicely framed. It is worth mentioning that images scanned from film are by their very nature somewhat blurred because they are 2nd generation - they've passed through another optical and digital system. At the very minimum these images will require some sharpening. As well, digital cameras introduce some image blurring because of a protective film on the sensor.

Also, cropping a small portion of the photo will result in lack of detail, therefore fill the entire frame with your subject. Do this by either getting closer to your subject, or use the zoom feature. Scan at your highest DPI if you're shooting film, or in the case of a digital camera, use the highest resolution setting. For film, I use a Minolta film scanner which provides 2820 DPI. For large transparencies from my Mamiya medium format camera, I'll use a flatbed with a film adaptor (Microtek Scanmaker 5900). I'll scan those at 2400 DPI. Then of course, there's my 8.2 megapixel DSLR.

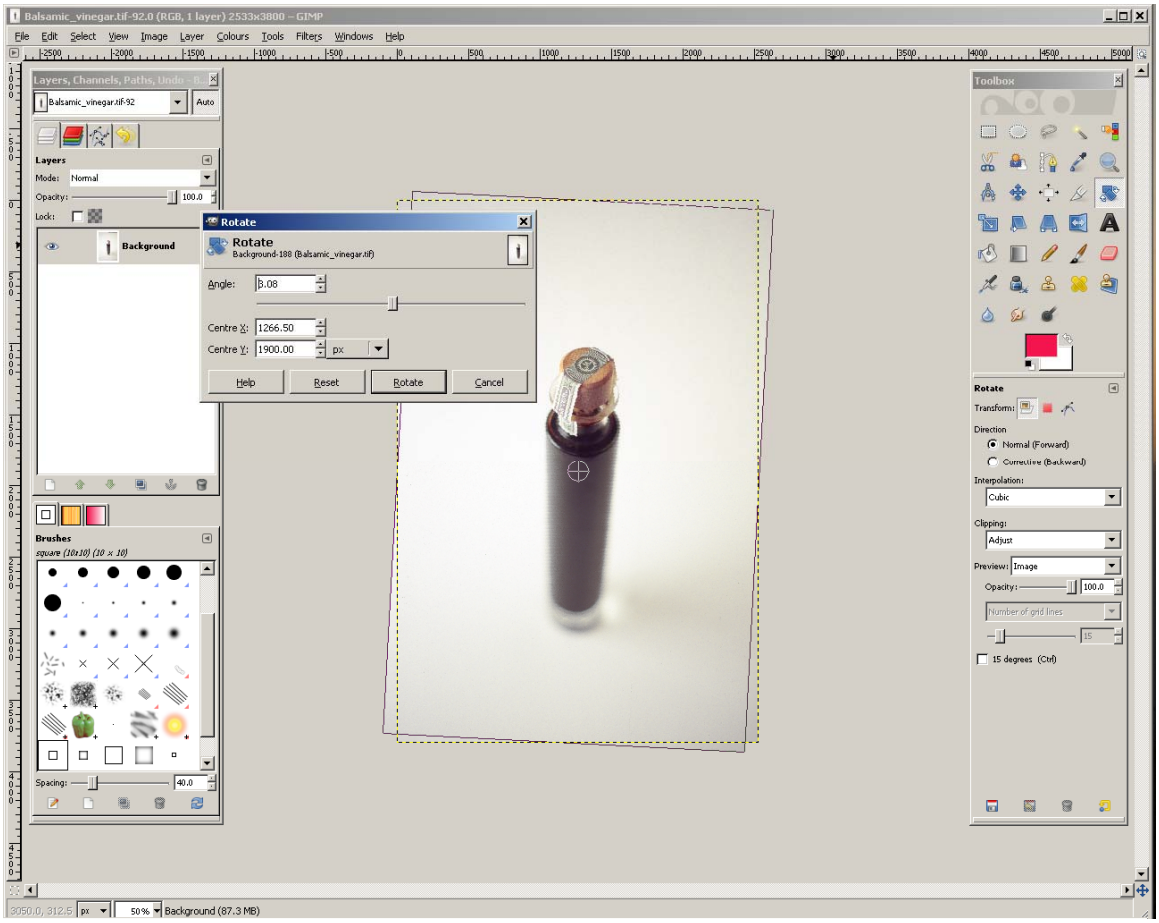
Here's a run-down of the steps I take to enhance my images.

Is Your Photo Straight?

I get stung by this one too often. I'll get home after a photo shoot, upload my images, and the one killer shot I took is not perfectly straight. An example is when photographing a large lake or the sea, the horizon or distant shoreline should be perfectly straight, not slanted. So if your image needs to rotate clockwise or counter-clockwise a few degrees, then you can rotate the canvas. So, after finding and opening your image with "File – Open", select the Rotate tool from the toolbox:



Once selected, you simply hold down the left mouse button anywhere around the outer edges of your photo, and straighten it out.



Once you have rotated the canvas to your liking, just click the "Rotate" button in the dialogue box.

Framing and Cropping

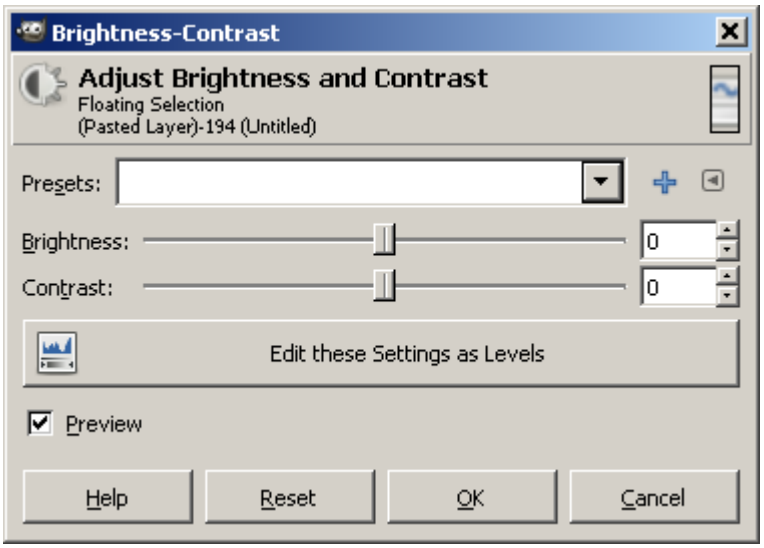
Sometimes the picture you shoot doesn't look quite the way it should, because you perhaps caught an edge of your reflector board, or it's not quite centered. Cropping is the term used to describe the elimination, or "cutting away" of undesirable parts of your photo. So if your photo could stand a crop, then do so by using the rectangular selection tool (as shown below) to select exactly the crop you want, then from the menu, select "Image – Crop to Selection".

As mentioned earlier, cropping only a small portion of your photo (because you were too far away) will not result in a good image. The smaller you crop, the more blurry and pixilated your selection will become. So, pay close attention to the framing of your subject before hitting that shutter button!

Brightness, Shadow/Highlight…

If your digital photo has a wide range of shadows and highlights, by far, this is one of the most important tweaks you will do to your photograph. The reason is that your camera's light meter only took a guess at what it thought the exposure should be, and quite often it will get it wrong. There are a few ways to adjust these parameters, so I'll go through them one by one. Once you have been exposed to all of them, decide for yourself which one you find most easy and intuitive… there's no right or wrong way to do this.

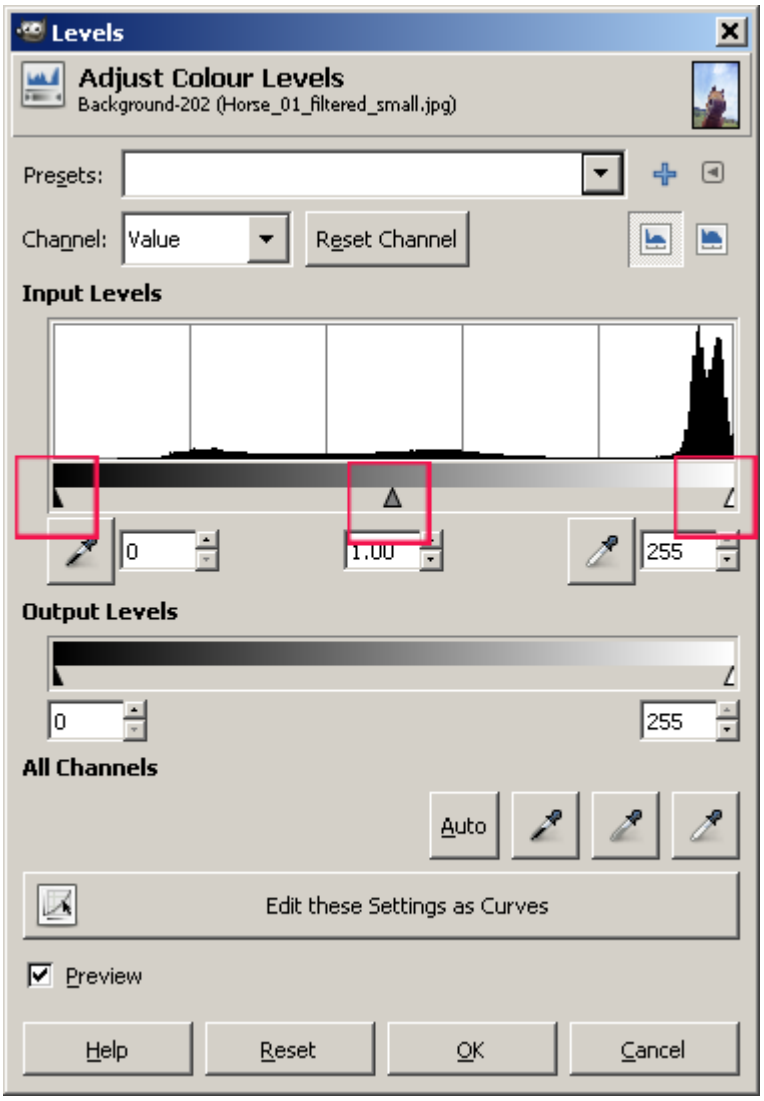
The first adjustment is brightness. That's "Colours – Brightness-Contrast".



Simply use the sliders to adjust the two parameters. Once you play with this means of adjusting brightness and contrast, you may actually find them restrictive compared to the curves and levels adjustment. Let's start with "Levels".

Levels

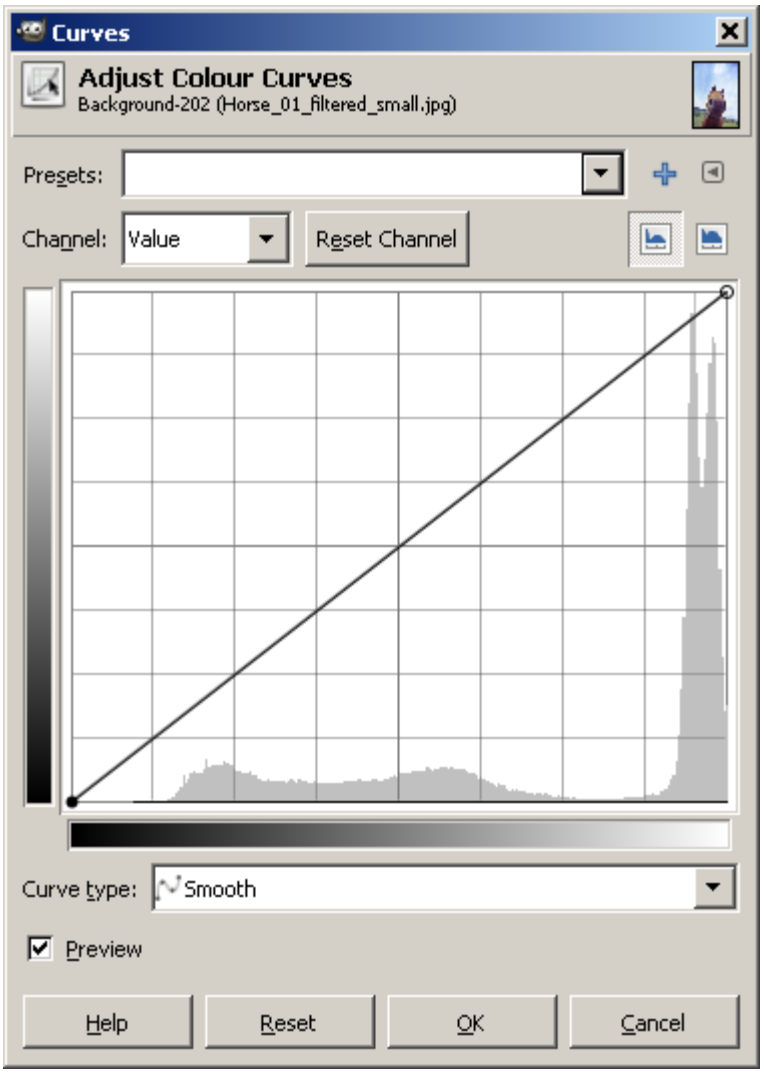
The "Levels" adjustment gives you control over the intensity of shadows, midtones, and highlights, all in one convenient place. Simply choose "Colours – Levels". You will see a graph representation of your image similar to this:



Note the three sliders. Move each one left and right to adjust shadow, mid-tone, and highlights. This is a very useful tool, and you will find yourself using it quite a bit.

Curves

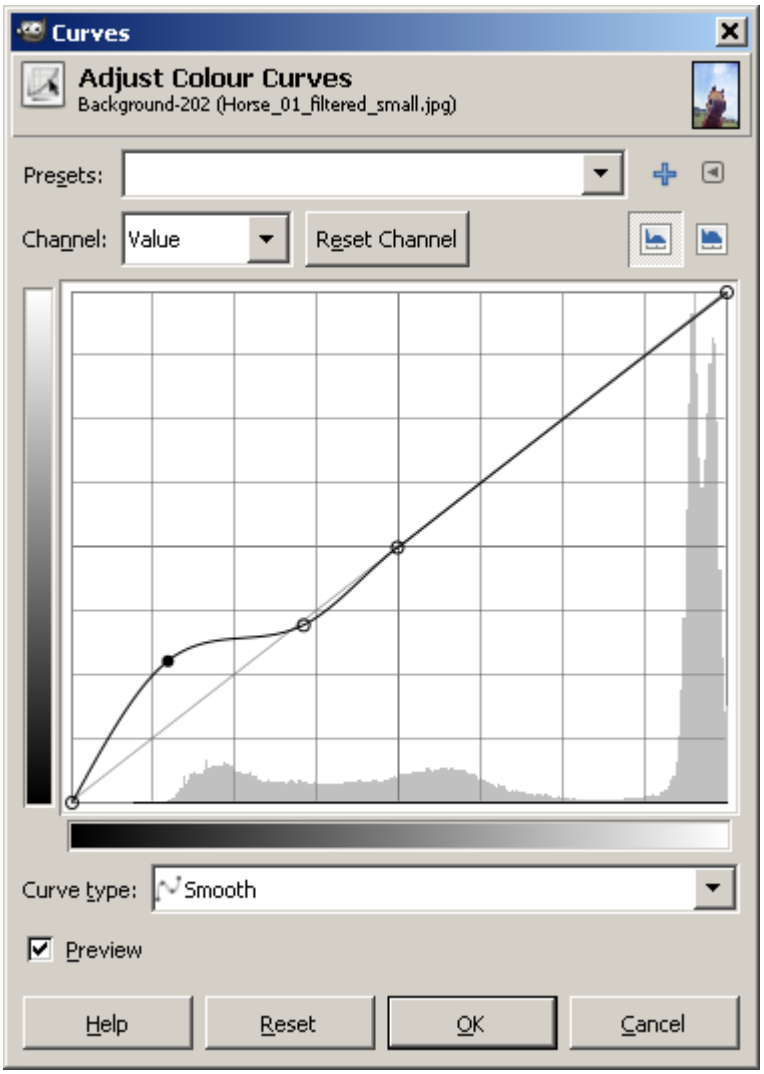
The next tool that adjusts these same parameters but in a different way is the curves tool. Most image processing programs have this excellent utility. This one is a little more involved, but it gives the user much more control. Choose "Colours – Curves". This will open up:



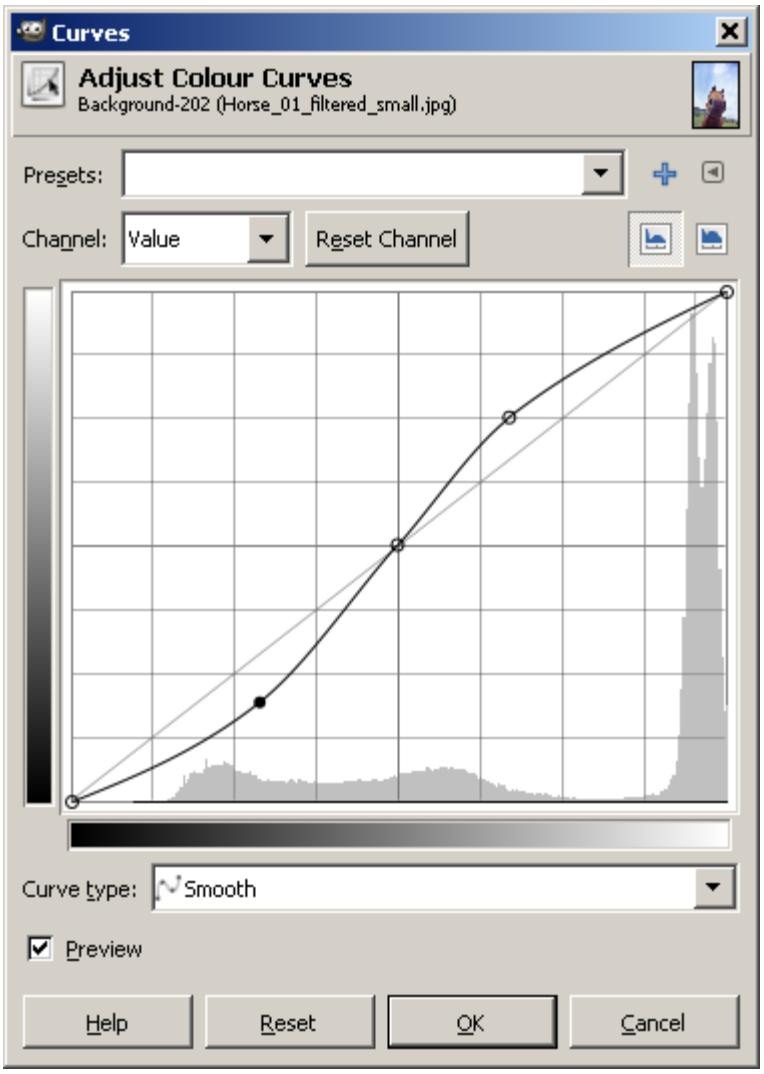
The diagonal line is a representation of your image's tonal range, which can be altered by 1) setting an anchor point somewhere on the line by clicking it, then 2) dragging it up and down, bending the line. In the next graphic, you can see how I set an anchor point right at the center of the line, then dragged the upper part of the line a little higher. The bottom section then automatically bends the other way, unless you set an anchor point there.

The effect on your image is that the contrast is increased, because the shadows have been deepened, and the highlights made stronger. If you clicked and dragged the lower half of the line so it went above its original starting point, you would begin to see details in the shadow portions of the image. This is often desirable, as although the highlights are often OK without any changes, shadow details are often lost.

By creating anchor point along the slanted line, then moving these points, you selectively increase or decrease the shadows and highlights of your image. Here is a sample curve for boosting lost shadow detail… note the center anchor, the second one a bit to the left of it, then the last one to the left which I moved up to increase the brightness of the darker portions of the photo.



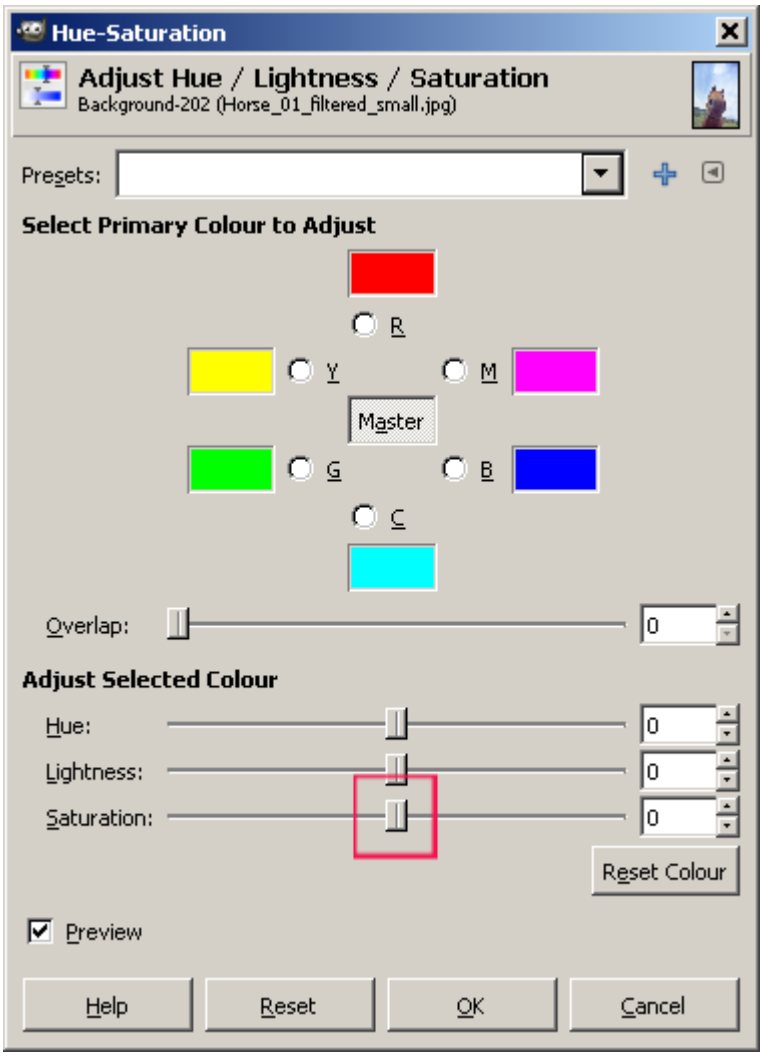
This next curves sample shows how to increase contrast:



As you can see, the possibilities are endless. The most important application for this tool is to reduce highlights that may be too bright, and to boost lost shadow detail. Here is a before and after to demonstrate:

Saturation

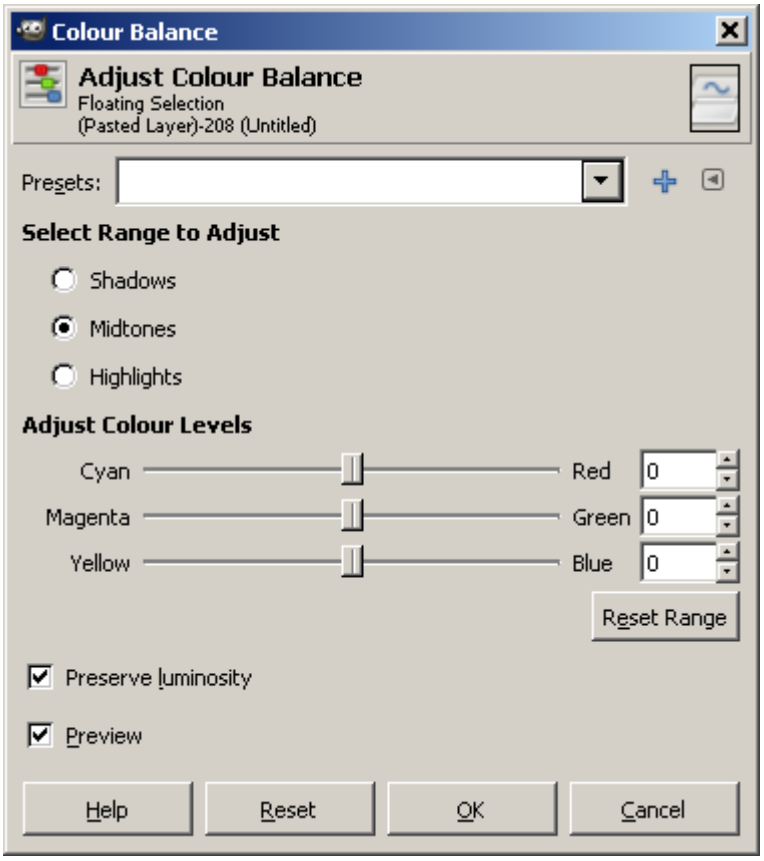
If your image lacks punchy colours, then the saturation adjustment is your friend. Click on "Colours – Hue-Saturation", and drag the saturation slider to the right. More often than not you will find an increase of up to 20 to be just right.



There is no real proper way to describe how to use the hue slider, as it affects different images in different ways. If the color balance is obviously out of whack, then choose "Colours – Colour Balance".

Colour Balance

If what you see on your computer screen accurately depicts the colours of your artwork, then skip this step. But, it is possible that the combination of white balance setting and lighting is a bit off. This is where the "Color Balance" tool saves the day.



Leave the tool presets as they are, and simply adjust the sliders to correct any hue problems you have. Often, just one will do it, such as moving the top slider to the left if your image has some incandescent light in it. Try each one, and you will sometimes find that changing a combination of two or all three is required. This tool does take a bit of playing around. Colour theory is a very deep and complex subject, and I do not purport to be an expert, but you will find that this tool offers a very powerful and simple means of adjusting color balance.

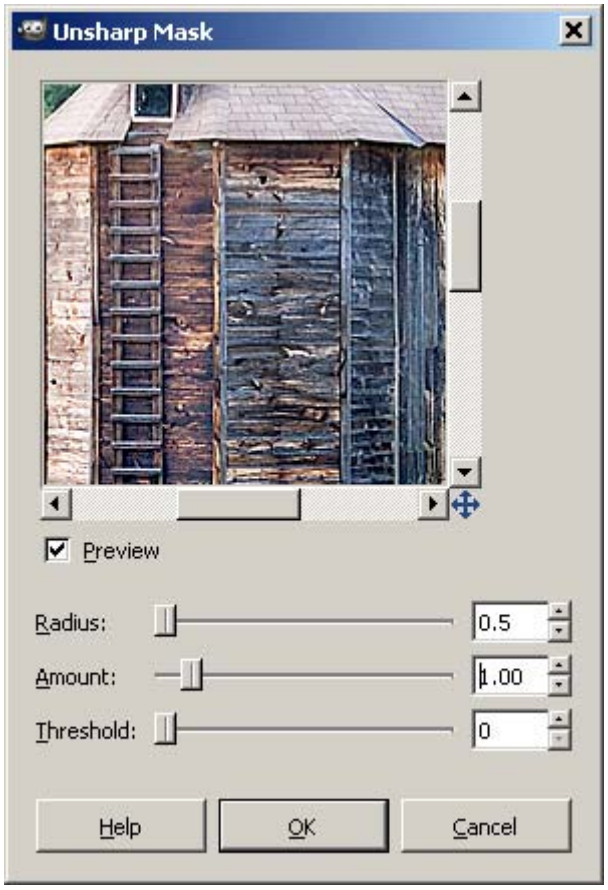
Saving, Resizing, and Sharpening

The eventual location of your image (in print, email, your web site) will determines whether you resize or not. It is prudent to always keep your images in full size, just in case at some point in the future you need to print promotional material. If your computer hard disk is not big enough to store multiple images in full size resolution, then you may want to burn them to CD-ROM for storage.

Whether you have resized your image or not, sharpening should be the last step. There's a lot that has been written about sharpening, what method to use, what settings are the most optimal… the following steps have worked very well for me, and they come from a decade of reading, research, and viewing real results both on the web, and large format

printing. The method we will use is a tool called "Unsharp Mask". It sounds counter-intuitive, but this is indeed the industry's best practice.

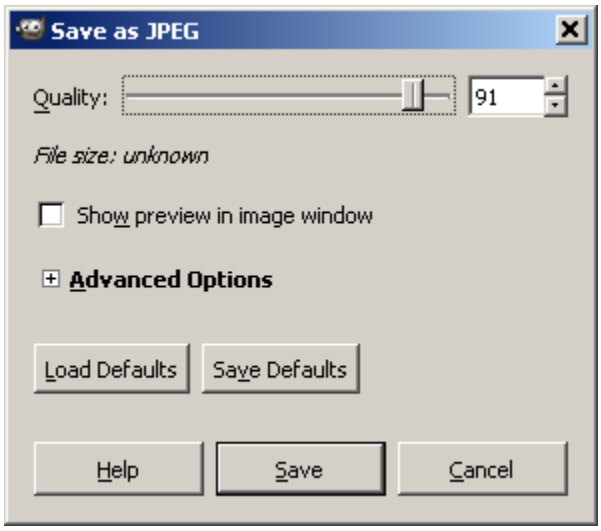
Select "Filters – Enhance – Unsharp Mask". The following dialogue box appears:



The settings above work well for web sized images, as well as anything that is to be printed. This is based on the assumption that the image is tack sharp to begin with; if it isn't, then I recommend re-shooting your artwork. At f-stop 8, and your camera on a tripod, you should have a very sharp image. One reason your image would be blurry would be your autofocus… try manually focusing. Or, the tripod shook while the shutter was open. Either way, following the steps laid out in this guide should result in sharp images. Sharpening the image with your computer does take it to the next level.

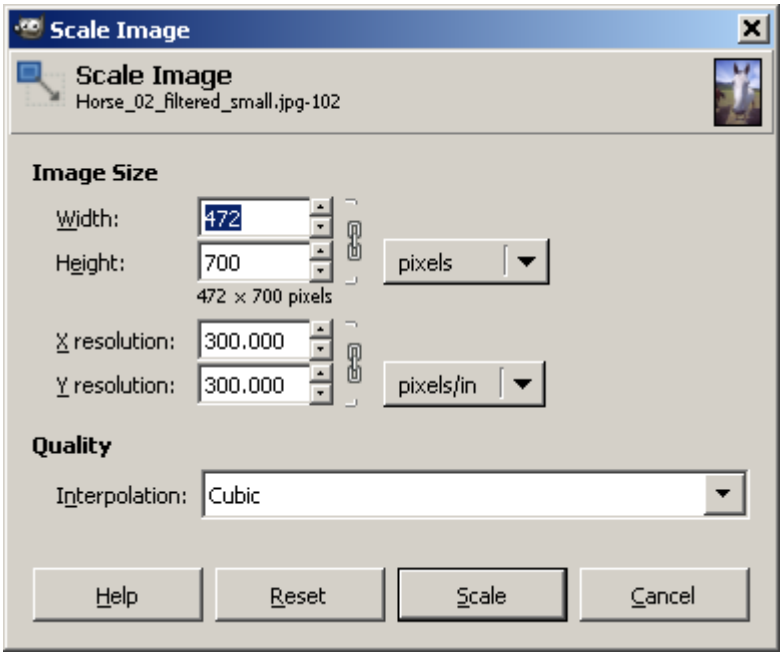
The values shown above in the unsharp mask dialogue box are guidelines, not gospel… but you should always leave the threshold at 0. The amount can be varied between 50 and 150. The pixel radius should never go higher than 2 for full resolution images, and .5 for web images.

GIMP offers various options when saving a file, especially if it is Jpeg or Gif. For serious work, TIFF is the best format to save in, as Jpeg tends to toss away some image data every time you do something to the image and resave it. They call that being "lossy". That being said, Jpegs are much smaller than TIFFs. If you do need to save a full size Jpeg image, you will be presented with a dialogue box to choose the compression ratio.



Note the quality slider. Move this all the way over to the right, then click "OK".

When saving for a web page, resize the image to your liking first. Do that with "Image – Scale Image". I generally will resize an image to anywhere between 500 and 700 pixels on the longest side; images this size will fit most computer screens without having to scroll.



Note the highlighted width number… simply replace that with the new number and click "OK". Now's the right time to sharpen your image. Choose 300 for X and Y resolution for print material, and 72 for web-based images.

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That's It, That's All!

That brings us to the end of this guide. Your success with being your own studio photographer lies in your determination to understand and become familiar with the tools, concepts, and techniques laid out in this guide. There's no doubt that a certain amount of technical ability is needed to master these principles. Every photo shoot will present its own challenges and difficulties, and the more you practice, the more your photos will look stunning.

As mentioned in the introduction, I am available via email for questions and advice, so after you have read your camera's user manual, and this guide, I would be pleased to answer any emails from you. Good luck, and happy shooting.
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