

TTL

THROUGH THE LENS THE MONTHLY NEWSLETTER OF ISLAND PHOTO GROUP

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Image Sharpness

by Jim Bullard

(Editor's Note: Thanks to Mike Ginex for contacting the author and getting his permission for us to reproduce his article in this month's TTL. For more information and other articles by the author see his website at: <http://www.jimbullard.org>)

It is tempting to think of sharpness only in terms of focus and depth-of-field but accurate focus is only one factor in image sharpness. What we are really concerned with is 'acceptable' sharpness or circles of confusion small enough to be perceived as sharp by the eye (.01 inch or less in diameter). Anytime you are trying to achieve the maximum sharpness you need to take the following into account:

Camera movement - Any movement of the camera has an effect on the sharpness of the image. While camera shake is obvious with slower shutter speeds even a subtle effect can be seen if the photo is enlarged because the blurs are being enlarged too. Your primary defense against camera movement is your trusty tripod. It's a good idea to use a cable release in conjunction with it so that you don't inadvertently shake the camera while tripping the shutter. If you are in a situation where you can't use a tripod, consider using a monopod. Another trick is to lean your body against something stable, a building, telephone pole, tree, etc. I once shot a waterfall at a quarter second with help from a friendly tree and it looks great at 11X14 (enlarged from 6x4.5cm).

Focus - When focusing always decide what is the most important point in the subject and be certain that you have that point in focus. The point is your center of interest and is the part of the photograph which will naturally attract the viewer's attention. In a portrait it would be the subject's eyes.

Depth-of-field - There are times when you want greater DOF to have more of the image in acceptable focus. You can achieve greater depth-of-field by stopping down (using smaller diaphragm openings). There are limits to the effectiveness of stopping down to achieve sharpness due to the limits of lens design and the behavior of light.

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Please Note: There will be no IPG meeting scheduled for Monday, January 19th in observance of the Martin Luther King holiday.

Quick Tips for January



One of the most important reasons for packing a massive memory card for use in your digital camera is to enable you to shoot at your camera's highest resolution. If you paid a premium price for a 5 megapixel digicam, then get your money's worth and shoot at 5 megapixels. And while you're at it, shoot at your camera's highest quality compression setting too.

Why not squeeze more images on your memory card by shooting at a lower resolution and at a low quality compression setting? Because you never know when you're going to capture the next great image of the 21st century. And if you take a beautiful picture at the low 640 x 480 resolution, that means you can only make a print about the size of a snapshot, not exactly the right dimensions for hanging in a museum.

On the other hand, if you recorded the image at 2272 x 1704 (4 megapixels) or larger, then you can make an 8 x 10 inch (or larger) photo-quality print suitable for framing or even for gracing the cover of a magazine. And just in case you weren't able to get as close to the action as you had liked, having those extra pixels enables you to crop your image and still have enough resolution to make a decent sized print.

The point is, if you have enough memory (and you know you should), then there's no reason to shoot at lower resolution and risk missing the opportunity to show off your work in a big way.

IPG Information

Meetings

Our regular meetings will be held from 7:30 - 10:00 PM on the 1st, 2nd, and 3rd Mondays of each month, except for holidays, at our meeting room located at:

Ellsworth Allen Park
101 Motor Avenue
Farmingdale, NY 11735



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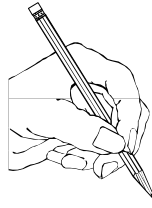
Webmasters **Roy & Alan Linker**
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"One Step Beyond"
Digital Photo Exhibit
by
Robert L. Makely

Epiphany Restaurant
284 Glen Street
Glen Cove, NY 11542
516-759-1913

September 1st 2003 Thru March 31st 2004
"Presentation" Date: To Be Announced

President's Message



I hope that everyone enjoyed the Holidays. I want to take this opportunity to wish you and your families a very happy, healthy and prosperous New Year.

During the past few weeks, I have been reading the e-mails from some of the members regarding the PFLI judging. Some of the comments were "the scoring is too low", "the scoring is inconsistent", "I'm not going to submit my work to PFLI".

Let me remind you that photography is a subjective endeavor. Every serious photographer makes a conscious decision to shoot a scene or subject in a specific way. Each time you take a photograph, you are visualizing the subject the way you like it. Someone else might "see" and shoot the same scene completely differently, yet each of you could walk away with a "WOW" photograph.

Judging photographs is also subjective. Certainly there are basic rules which act as criteria for what makes a good photograph, but in the end, no matter how objective the judges claim to be, it is their own idea of what makes a good photograph which determine the point score.

So what does this all mean? It means that things will not change. It means that those of you who compete at PFLI, for the SCORES, need to come to terms with the fact that some scoring will be low, some high and some will be just right.

Those of us who don't think that competition scoring is what photography is all about will continue to enjoy shooting subjects which we find interesting, resulting in photographs which please us.

Perhaps this little bit of trivia will bring all of this into perspective. The great comic, Charlie Chaplin, once entered a "Charlie Chaplin look alike" contest just for fun. The contest was being judged by three judges (sound familiar?). The judges awarded him 3rd place. Enough said.

Charlie



Island Photo Group Critique Nights

Critique Nights will be held
the 3rd Monday of every Month

All IPG Members can submit 2 photos in each
of the following categories:

Color Prints, B&W Prints and Slides

Members will be classified as either an
"A" worker (advanced) or "B" worker (beginner)

f/stop - The smallest diaphragm openings produce the greatest relative DOF however the image sharpness is actually less than a moderate opening produces because of diffraction or bending of the light rays. Light rays which closely pass an edge bend toward the edge as they go by much like when you touch the side of the stream of water falling from a tap (try it). The stream (or a portion of it) will bend toward your finger. The rays thus scattered are then out of focus. Diffraction occurs at any lens opening but since the proportion of diffracted rays to non-diffracted rays is greater with very small openings than with larger openings, the image sharpness is slightly less at the smaller openings. The faucet experiment works to show this effect too. Open the tap to the smallest steady stream you can and lightly touch the side of the stream with your finger. Chances are the entire stream will be diverted toward your finger. Now open the tap further. As the volume of the stream increases, less of it touches your finger and more of it falls straight.

Lens quality - Aside from actual differences in the quality of lenses, no lens is equally sharp at all the available diaphragm openings. The maximum sharpness of a lens is obtained in the middle range of the available f/stops. For example, if you have a 50mm lens with a range of f/2 to f/16, your lens is probably sharpest when used at f/5.6 or f/8. This is because of the limits of lens design. Maybe someday we'll figure out how to design a lens that is equally sharp at all openings but we are not there yet. In the meantime lens designers go for the greatest sharpness in the middle range and compromise on the rest. Although not a lens you should consider your filters as part of the lens. Buy the very highest quality you can afford. They are in the light path and your image will be only as good as can be produced by the lowest quality piece of glass (resin, plastic or gelatin) in the light path. It should be obvious that you must keep all your lenses and filters clean.

Film - As important as the focus and transmission of the light rays is, the ability of the film to record the image sharply is what determines whether all your efforts will result in a sharp image. In general, finer grained, slower films are sharper than larger grained, faster films. Some of the newer tabular grained films (Kodak's T-Max films and Ilford's Delta series) decrease the differences between slower and faster films but don't eliminate it.

Processing - If you've never processed your own film you are probably unaware that the processing also enters into the sharpness of the image. Ilford film tech sheets, for example, list the options for processing their B&W emulsions for overall image quality, variations of the ISO, finest grain, maximum sharpness, etc. For

maximum sharpness you need to choose an appropriate developer for the film you are using. I like using Ilford Pan F in ID-11 diluted 1 to 3. Kodak's Microdol is an old standby for fine grain and sharpness. A favorite developer for many photographers is Rodinal which can be used in extreme dilution which also helps sharpness. Ilford's Ilfosol -S is similar in its action. Dilution (with corresponding increases in development time) has the bonus effect of extending the tonal range in standard emulsions. Not all developers function well in dilution and tabular emulsions may not respond the same. Check the manufacturer's recommendations. As they are continually updating their products I will not attempt to duplicate that information here.

If you are making enlargements the problem of maintaining sharpness continues into the printing process where you have many of the same concerns. You need accurate focus, a properly aligned and stable enlarger, good lenses (kept clean) and an appropriate paper/processing technique.



Above: Some of our club members who were in attendance for our December 1, 2003 general meeting where a representative of Media Street did a live demonstration of an installation of their Niagara II Continuous Ink Flow System in an Epson 2200 printer.

Bronx Zoo Field Trip

When: Sunday January 4th

Where: The Bronx Zoo

Meet: 9:00 AM Empress Diner (Newbridge Rd. & Hempstead Tpke. in East Meadow) in the rear parking lot or Bronx Zoo Fountain Parking 10:00 AM

Recommended Equipment:

Flash with off camera bracket

Telephoto lens

Macro lens/close up filter

Tripod for outside shooting (Weather Permitting)

Zoo directions can be found at <http://www.bronxzoo.com>

We will be shooting both indoor and outdoor, so we will go rain/snow or shine.